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Office of Climate, Licensing & Resource Use  
PO Box 3000  
Johnstown Castle Estate  
County Wexford

**Application to Request a Revision of IPPC license (Reg. P0075-2)**

Dear Sir / Madam

I wish to apply to The Environmental Protection Agency to seek to a revision of the terms of our IPPC license (Reg. P0075-2) in order to accommodate changes that we wish to make at our site.

The application consists of a signed original application and two hardcopies of the application and accompanying documents in hardcopy format. In addition, two copies of all files are included on CD-Rom.

The content of the electronic files on the CD-Rom is a true copy of the original application form and attachments.

Dr. Ian Marnane, of the Environmental Protection Agency, has confirmed that it shall be acceptable for the application to focus on the proposed activity and the application was prepared accordingly.

At the request of Dr. Marnane, the application details:

- how compliance with the Solvent Regulations (S.I. 543 of 2002) has been achieved;
- changes to the site and IPPC license that have been agreed with the Office Environmental Enforcement of the EPA; and
- the effect of the combined activities at the site on the environment

In addition, Dublin City Council have been notified of the application and a notice advising that an application is about to be submitted has been placed in a national newspaper. Copies of the notification to Dublin City Council and the newspaper advertisement are included as part of this application.

Please also find enclosed a cheque for €5,000. This sum, which has been agreed with Dr. Marnane includes a part waiver on both of the fees relating to the current and proposed activities.

Yours sincerely,

Michael Galvin  
Managing Director

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# Integrated Pollution Prevention and Control (IPPC) Licensing

## Application Form

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<b>EPA Reg. N°:</b> (Office use only)	<input type="text"/>
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**Environmental Protection Agency**  
P.O. Box 3000, Johnstown Castle Estate, Co. Wexford  
Lo Call: 1890 335599 Telephone: 053-9160600 Fax: 053-9160699  
Web: [www.epa.ie](http://www.epa.ie) Email: [info@epa.ie](mailto:info@epa.ie)

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## ABOUT THIS APPLICATION FORM

This form is for the purpose of making an application for an Integrated Pollution Prevention and Control (IPPC) Licence under the Environmental Protection Agency Acts, 1992 and 2003. There are separate application forms for licensees who wish to apply for a review of existing licences and for Pig & Poultry sector applicants.

The Application Form **must** be completed in accordance with the instructions provided in the *IPPC Licensing Application Guidance Note*. The Guidance Note gives an overview of IPPC Licensing, outlines the licence application process (including number of copies required) and specifies the information to be submitted in the application. The Guidance Note and application forms are available to download from the IPPC Licensing pages of the EPA's website at [www.epa.ie](http://www.epa.ie). A valid application for an IPPC licence must contain the information prescribed in the Environmental Protection Agency (Licensing) Regulations, 1994 to 2004. Article 10 of the Regulations sets out the statutory requirements for information to accompany a licence application. The application form is designed in such a way as to set out these questions in a structured manner and not necessarily in the order presented in Article 10. In order to ensure a legally valid application in respect of Article 10 requirements, please complete the Article 10 Checklist provided in Annex 2.

This Application Form does not purport to be and should not be considered a legal interpretation of the provisions and requirements of the Environmental Protection Agency Acts, 1992 and 2003 and the Environmental Protection Agency (Licensing) Regulations 1994 to 2004. While every effort has been made to ensure the accuracy of the material contained in the Application Form, the EPA assumes no responsibility and gives no guarantees, undertakings and warranties concerning the accuracy, completeness or up-to-date nature of the information provided herein and does not accept any liability whatsoever arising from any errors or omissions.

Should there be any contradiction between the information requirements set out in the Application Form and any clarifying explanation contained in the accompanying Guidance Note, then the requirements in this Application Form shall take precedence.

## SECTION A: NON-TECHNICAL SUMMARY

A non-technical summary of the application is to be included here. The summary should identify all environmental impacts of significance associated with the carrying on of the activity/activities, and describe mitigation measures proposed or existing to address these impacts. This description should also indicate the normal operating hours and days per week of the activity.

The following information must be included in the non-technical summary:

A description of:

- the installation and its activities,
- the raw and auxiliary materials, other substances and the energy used in or generated by the installation,
- the sources of emissions from the installation,
- the environmental conditions of the site of the installation (e.g. soil and groundwater, air, noise, surface water),
- the nature and quantities of foreseeable emissions from the installation into each medium as well as identification of significant effects of the emissions on the environment,
- the proposed technology and other techniques for preventing or, where this is not possible, reducing emissions from the installation,
- where necessary, measures for the prevention and recovery of waste generated by the installation,
- further measures planned to comply with the general principles of the basic obligations of the operator i.e.
  - (a) all the appropriate preventive measures are taken against pollution, in particular through application of the Best Available Techniques (BAT);
  - (b) no significant pollution is caused;
  - (c) waste production is avoided in accordance with Council Directive 75/442/EEC of 15 July 1975 on waste; where waste is produced, it is recovered or, where that is technically and economically impossible, it is disposed of while avoiding or reducing any impact on the environment;
  - (d) energy and other resources are used efficiently;
  - (e) the necessary measures are taken to prevent accidents and limit their consequences;
  - (f) the necessary measures are taken upon definitive cessation of activities to avoid any pollution risk and return the site of operation to a satisfactory state.
- measures planned to monitor emissions into the environment.

Supporting information should form **Attachment N<sup>o</sup> A.1**

<b>SECTION B: GENERAL</b>
---------------------------

**B.1. Owner/Operator**

<b>Name*:</b>	Burgess Galvin and Company Limited
<b>Address:</b>	Jamestown Road
	Finglas
	Dublin 11
<b>Tel:</b>	01-834-2255
<b>Fax:</b>	01-836-1399
<b>e-mail:</b>	pkane@burgessgalvin.ie

\* This should be the name of the applicant which is current on the date this IPPC Licence Application is lodged with the Agency. It should be the name of the legal entity (which can be a limited company or a sole trader). A trading/business name is not acceptable.

**Name and Address for Correspondence**

Only application documentation submitted by the applicant and by the nominated person will be deemed to have come from the applicant.

<b>Name:</b>	Dr. Paddy Kane
<b>Address:</b>	Burgess Galvin & Co. Ltd.
	Jamestown Road
	Finglas
	Dublin 11
<b>Tel:</b>	01-834-2255
<b>Fax:</b>	01-836-1399
<b>e-mail:</b>	pkane@burgessgalvin.ie

**Address of registered or principal office of Body Corporate (if applicable)**

<b>Address:</b>	
<b>Tel:</b>	
<b>Fax:</b>	
<b>e-mail:</b>	

If the applicant is a body corporate, the following information must be attached as **Attachment B1**:

- a) a Certified Copy of the Certificate of Incorporation.
- b) the Company's Registration Number from the Companies Registry Office.
- c) Particulars of Registered Office of the Company.

**Name and address of the proprietor(s) of the Land on which the Activity is situated (if different from applicant named above):**

<b>Proprietor's Name:</b>
<b>Address:</b>
<b>Tel:</b>
<b>Fax:</b>
<b>e-mail:</b>

**Name and address of the owner(s) of the building and ancillary plant in which the activity is situated ( if different from applicant named above):**

<b>Name:</b>
<b>Address:</b>
<b>Tel:</b>
<b>Fax:</b>
<b>e-mail:</b>

**B.2. Location of Activity**

<b>Name:</b>	Burgess Galvin & Co. Ltd.
<b>Address*:</b>	Jamestown Road
	Finglas
	Dublin 11
<b>Tel:</b>	01-834-2255
<b>Fax:</b>	01-836-1399
<b>Contact Name:</b>	Dr. Paddy Kane
<b>Position:</b>	Chemist
<b>e-mail:</b>	pkane@burgessgalvin.ie

\* Include any townland.

<b>National Grid Reference (12 digit 6E,6N)</b>	313611 239999
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[a] This grid reference refers to the centre point of the site.

Location maps ( $\leq A3$ ), appropriately scaled, with legible grid references should be enclosed in **Attachment B.2**. The site boundary must be outlined on the map in colour.

Geo-referenced digital drawing files (e.g. AutoCAD files) in Irish Grid projection of the site boundary and overall site plan, including labelled emission, monitoring and sampling points, are also required. This data should be provided to the Agency on a separate CD-Rom containing sections B.2, E.6 and F.3.

<b>Name of geo-referenced digital drawing files</b>	AttachmentB2_BurgessGalvin.dwg
<b>Name of CD-Rom with</b>	Attachment_B2_Digital_Drawings

**digital drawing files****B.3. Class of Activity**

Identify the relevant activities in the First, Third or Fourth Schedule of the PoE Act 2004 to which the activity relates:

Schedule	Class	Description <sup>Note 1</sup>
1	12.2.2	The manufacture of coating materials in processes with a capacity to use at least 10 tonnes per year of organic solvents, not included in paragraph 12.2.1.

**Note 1:** In order to give a precise identification **select only those words** from the description of the class or classes that best describes the nature of the activity for which the licence is being applied for.

**B.4. Employees/ Capital Cost**

Give-

(i) In the case of an established activity, the number of employees and other persons working or engaged in connection with the activity on the date after which a licence is required and during normal levels of operation, or

(ii) In any other case, the gross capital cost of the activity to which the application relates.

<b>Number of Employees (existing facilities):</b>	10 [a]
<b>Gross Capital Cost (new proposals) €</b>	ca. €100,000

[a] There are 48 people employed on the site. The value quoted of 10 refers to employees who are directly or indirectly involved in the production and packing of wood preservative at the site.

**B.5. Relevant Planning Authority**

Give the name of the planning authority in whose functional area the activity is or will be carried out.

<b>Name:</b>	Dublin City Council
<b>Address:</b>	Civic Offices
	Wood Quay
	Dublin 8
<b>Tel:</b>	01-679-6111
<b>Fax:</b>	

Planning Permission relating to this application:

<b>has been obtained</b>		<b>is being processed</b>	
<b>is not yet applied for</b>		<b>is not required</b>	True

<b>Local Authority Planning File Reference N<sup>o</sup>:</b>	379/70
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**Attachment B.5** should contain all planning permissions, including a copy of **all** conditions, and the required copies of any EIS should also be enclosed. For existing activities, **Attachment N<sup>o</sup> B.5** should also contain all licences and permits past and present in force at the time of submission.

### B.6. Relevant Sanitary Authority

In the case of a discharge of any trade effluent or other matter to a sewer of a sanitary authority, give the name of the sanitary authority in which the sewer is vested or by which it is controlled.

Effluent from effluent discharge tank on the site is discharged to sewer controlled by Dublin City Council.

<b>Name:</b>	Dublin City Council
<b>Address:</b>	Civic Offices
	Wood Quay
	Dublin 8
<b>Tel:</b>	01-679-6111
<b>Fax:</b>	

In January of 2008, effluent from effluent settlement tank on the site was disposed of by Kildare county Council

<b>Name:</b>	Kildare County Council
<b>Address:</b>	Head Office
	Head Office
	Áras Chill Dara
	Devoy Park
	Naas
	Co. Kildare
<b>Tel:</b>	Telephone (045) 980200
<b>Fax:</b>	Fax (045) 980240

In the case of a discharge of any trade effluent or other matter to a sewer not vested by a sanitary authority, the applicant must supply as **Attachment N<sup>o</sup> B.6**; (a) the name and address of the owner(s) of the sewer and the waste water treatment plant to which the sewer discharges and who are responsible for the quality of the treated effluent discharging to waters and (b) a copy of the effluent regulations and the agreement between the applicant and the aforementioned.

<b>Name:</b>	
<b>Address:</b>	
<b>Tel:</b>	
<b>Fax:</b>	

**B.7. Relevant Health Board Region**

The applicant should indicate the Health Board Region where the activity is or will be located.

<b>Name:</b>	Health Service Executive
<b>Address:</b>	Dublin North West Office
	Ballygall Road
	Finglas
	Dublin 11
<b>Tel:</b>	01-834 2003
<b>Fax:</b>	

**B.8 Site Notice, Newspaper Advertisement and Planning Authority Notice.**

**Attachment N<sup>o</sup> B.8** should contain a copy of the text of the site notice, a map (no larger than A3) showing its location on site (in accordance with Article 7 of the Regulations) and a copy of the newspaper advertisement. A copy of the notice given to the Planning Authority should also be included.

**B.9 Seveso II Regulations**

State whether the activity is an establishment to which the EC (Control of Major Accident Hazards involving Dangerous Substances) Regulations (S.I. No. 74 of 2006) apply.

If yes, outline how the process comes under these regulations.

Supporting information should be included in **Attachment N<sup>o</sup> B.9**.

**B.10 IPPC Directive**

Specify whether the activity is a category of industrial activity referred to in Annex I of the IPPC Directive (96/61/EC) and if yes specify the category.

Supporting information should be included in **Attachment N<sup>o</sup> B.10**.

## SECTION C: MANAGEMENT OF THE INSTALLATION

**C.1 Site Management & Control**

Details should be provided on the management structures for the activity. Organisational charts and all relevant environmental management policy statements, including provisions for on-going assessment of environmental performance, are required.

**C.2 Environmental Management System (EMS)**

Indicate whether an Environmental Management System has been developed for the installation. If yes, specify which standard and include a copy of the accreditation certificate.

**C.3 Hours of Operation**

Provide details of the hours of operation for the installation, including:

(a) Proposed hours of operation.

(b) Proposed hours of construction and development works and timeframes.

(c) Any other relevant hours of operation expected.

This information should form **Attachment N<sup>o</sup> C**.

## SECTION D: INFRASTRUCTURE & OPERATION

### D.1. Operational Information Requirements

Describe the plant, methods, processes, ancillary processes, abatement, recovery and treatment systems, and operating procedures for the activity, to include a copy of such plans, drawings or maps, (site plans and location maps, process flow diagrams), and such other particulars, reports and supporting documentation as are necessary to describe all aspects of the activity. Maps and drawings must be no larger than A3 size.

A development and operational history of the site should be included here.

**Attachment N<sup>o</sup> D** should contain a list of all unit operations (processes) to be carried out, including flow diagrams of each with any relevant additional information.

## SECTION E: EMISSIONS

### E.1. Emissions to Atmosphere

#### E.1.A. Details of all point emissions to atmosphere

Details of all point emissions to atmosphere should be supplied. Complete Table E.1(i) for Boiler Emissions and Table E.1(ii) and E.1(iii) for all other main emission points. Complete Table E.1(iv) for minor emission points.

A summary list of the emission points, together with maps and/or drawings (no larger than A3), and supporting documentation should be included as **Attachment N<sup>o</sup> E.1.A**. Plans of emission elevations, relevant roof heights, etc., should also be included, as should detailed descriptions and schematics of all abatement systems.

The applicant should address in particular any emission point where the substances listed in the Schedule of S.I. 394 of 2004 are emitted.

For emissions outside the BAT guidance limit, a full evaluation of the existing abatement/treatment system must be provided. A planned programme of improvement towards meeting upgraded standards is required. This should highlight specific goals and a time scale, together with options for modification, upgrading or replacement as required to bring the emissions within the limits as set out in the BAT guidance note(s). These notes can be found on the EPA website at [www.epa.ie](http://www.epa.ie).

#### E.1.B. Fugitive and Potential emissions

Give summary details of fugitive and potential emissions in Table E.1(v).

In relation to activities listed in the Schedule of Council Directive 1999/13/EC on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain activities and installations;

- specify the relevant category of activity in the Schedule
- 
- specify how the requirements in relation to fugitive emissions will be met.

Full details and any supporting information are included in **Attachment E 1B**

## **E.2 Emissions to Surface Waters**

Tables E.2(i) and E.2(ii) should be completed.

A summary list of the emission points, together with maps/drawings (no larger than A3) and supporting documentation should be included as **Attachment N<sup>o</sup> E.2**.

The applicant should address in particular any emission point where the substances listed in the Schedule of S.I. No. 394 of 2004 are emitted.

Details of all List I and List II substances listed in the Annex to EU Directive 76/464/EEC (as amended), contained in any emission must be presented. All surface water runoff and storm water drains discharging to surface water bodies must be included. A National Grid References (12 digit, 6E, 6N) must be given for all discharge points. The identity and type of receiving water (river, ditch, estuary, lake, etc.) must be stated.

For emissions outside the BAT guidance limit, a full evaluation of the existing abatement/treatment system must be provided. A planned programme of improvement towards meeting upgraded standards is required. This should highlight specific goals and a time scale, together with options for modification, upgrading or replacement as required to bring the emissions within the limits as set out in the BAT guidance note(s).

## **E.3 Emissions to Sewer**

Tables E.3(i) and E.3(ii) should be completed.

A summary list of the emission points, together with maps and/or drawings (no larger than A3) and supporting documentation should be included as **Attachment N<sup>o</sup> E.3**. Details of all List I and List II substances listed in the Annex to EU Directive 76/464/EEC (as amended), contained in any emission must be presented. All relevant information on the receiving sewer, including any effluent treatment/abatement systems, not already described, with schematics as appropriate should also be included in **Attachment N<sup>o</sup> E.3**.

For emissions outside BAT guidance limit (where given), a full evaluation of the existing abatement/treatment system must be provided. A planned programme of improvement towards meeting upgraded standards is required. This should highlight specific goals and a time scale, together with options for modification, upgrading or replacement as required to bring the emissions within any limits set out in the BAT guidance note(s).

## **E.4. Emissions to Ground**

Describe the existing or proposed arrangements necessary to give effect to Articles 3,4,5,6, and 7 of Council Directive 80/68/EEC of 17 December 1979 on the protection of groundwater against pollution by certain dangerous substances.

The applicant should supply details of the nature and quality of the substance (agricultural and non-agricultural waste) to be landspread (slurry, effluent, sludges etc) as well as the proposed application rates, periods of application and mode of application (e.g., pipe discharge, tanker).

For emissions outside the BAT guidance limit, a full evaluation of the existing abatement/treatment system must be provided. A planned programme of improvement towards meeting upgraded standards is required. This should highlight specific goals and a time scale, together with options for modification, upgrading or replacement as required to bring the emissions within the limits as set out in the BAT guidance note(s).

See **Attachment N<sup>o</sup>E.4**

## E.5 Noise Emissions

Give particulars of the source, location, nature, level, and the period or periods during which the noise emissions are made or are to be made.

Table E.5(i) should be completed, as relevant, for each source.

Supporting information should form **Attachment N<sup>o</sup> E.5**

For emissions outside the EPA Guidance Note for Noise in relation to Scheduled Activities 2<sup>nd</sup> Edition (2006), a full evaluation of the existing abatement/treatment system must be provided. A planned programme of improvement towards meeting upgraded standards is required. This should highlight specific goals and a time scale, together with options for modification, upgrading or replacement as required to bring the emissions within the limits as set out in the Guidance Note.

## E.6 Tabular Data on Emission Points

Applicants should submit the following information for each emission point:

Point Code	Point Type	Easting	Northing	Verified	Emission
Provide label ID's assigned in section E	A=Atmospheric SW=Surface Water SE = Sewer GW=Groundwater N = Noise SL=Soil/Ground WS=Waste	6E-digit GPS Irish National Grid Reference	6N-digit GPS Irish National Grid Reference	Y = GPS used N = GPS not used	e.g. SO <sub>2</sub> , HCl, NH <sub>3</sub>

An individual record (i.e. row) is required for each emission point. Acceptable file formats include Excel, Access or other upon agreement with the Agency. A standard Excel template can be downloaded from the EPA website at [www.epa.ie](http://www.epa.ie). This data should be submitted to the Agency on a separate CD-Rom containing sections B.2, E.6 and F.3.

## SECTION F: CONTROL & MONITORING

**Describe the proposed technology and other techniques for preventing or, where this is not possible, reducing emissions from the installation/facility.**

### F.1: Treatment, Abatement and Control Systems

Details of treatment/abatement systems (air and effluent emissions) should be included, together with schematics as appropriate.

For each Emission Point identified complete Table F.1(i) and include detailed descriptions and schematics of all abatement systems.

**Attachment N<sup>o</sup> F.1** should contain any supporting information.

### **F.2: Emissions Monitoring and Sampling Points**

Identify monitoring and sampling points and outline proposals for monitoring **emissions**. Table F.2(i) should be completed (where relevant) for air emissions, for emissions to surface waters, for emissions to sewers, for emissions to ground, and for waste emissions. Where **ambient** environment monitoring is carried out or proposed, Table F.2(ii) should be completed as relevant for each environmental medium.

Include details of monitoring/sampling locations and methods.

**Attachment N<sup>o</sup> F.2** should contain any supporting information.

### **F.3: Tabular Data on Monitoring and Sampling Points**

Applicants should submit the following information for each monitoring and sampling point:

<b>Point Code</b>	<b>Point Type</b>	<b>Easting</b>	<b>Northing</b>	<b>Verified</b>	<b>Pollutant</b>
Provide label ID's assigned in section F3	M=Monitoring S=Sampling	6E-digit GPS Irish National Grid Reference	6N-digit GPS Irish National Grid Reference	Y = GPS used N = GPS not used	e.g. SO <sub>2</sub> , HCl, NH <sub>3</sub>

An individual record (i.e. row) is required for each monitoring and sampling point. Acceptable file formats include Excel, Access or other upon agreement with the Agency. A standard Excel template can be downloaded from the EPA website at [www.epa.ie](http://www.epa.ie) [**Attachment F 3**]. This data should be submitted to the Agency on a separate CD-Rom containing sections B.2, E.6 and F.3.

Point source monitoring/sampling refers to monitoring from specific emission points (e.g. from a boiler stack or outlet from a wastewater treatment plant). Examples of ambient monitoring includes monitoring of ambient air quality (e.g. boundary or off-site) or monitoring of river quality upstream/downstream of an effluent discharge.

## **SECTION G: RESOURCE USE AND ENERGY EFFICIENCY**

**G.1** Give a list of the raw and ancillary materials, substances, preparations, fuels and energy which will be produced by or utilised in the activity.

The list(s) given should be very comprehensive, all materials used, fuels, intermediates, laboratory chemicals and product should be included.

Particular attention should be paid to materials and product consisting of, or containing, dangerous substances as described in the EU (Classification, Packaging, Labelling and Notification of Dangerous Substances) Regulations 1994 [SI 77/94]. The list must classify these materials in accordance with Article 2 of these Regulations, and must specify the designated Risk Phrases (R-Phrases) of each substance in accordance with Schedule 2 of the Regulations

Tables G.1(i) and G.1(ii) must be completed. Copy as required.

Supporting information should be given in **Attachment N° G.**

## **G.2 Energy Efficiency**

A description of the energy used in or generated by the activity must be provided. Outline the measures taken to ensure that energy is used efficiently and where appropriate, an energy audit with reference to the EPA Guidance document on Energy Audits should be carried out.

A description of the energy used in the manufacture of wood preservative on the site is provided in **Attachment G 2.**

## **SECTION H: MATERIALS HANDLING**

### **H.1 Raw Materials, Intermediates and Product Handling**

All materials used are listed in Tables G.1(i) and G.(ii) of **Section G.**

Details of the storage conditions, location within the site, segregation system used and transport systems within the site are outlined in **Attachment H 1.** In addition, information relating to the integrity, impermeability and recent testing of pipes, tanks and bund areas is also outlined.

**H.2** Describe the arrangements for the recovery or disposal of solid and liquid wastes accepted into or generated by the installation/facility.

For each waste material, give full particulars of:

- (a) Name
- (b) Description & nature of waste
- (c) Source
- (d) Where stored and integrity/impermeability of storage areas
- (e) Amount (m<sup>3</sup>) and tonnage
- (f) Period or Periods of generation
- (g) Analysis ( include test methods and Q.C. )
- (h) European Waste Catalogue Code
- (i) Waste Category per EC Reg 1774/2002/EC where relevant

Where any waste would be classified as Hazardous Waste as defined in the Waste Management Acts, 1996 to 2003, this should be made clear in the information provided.

Summary Tables H.1(i) and H.1(ii) should also be completed, as appropriate, for each waste. The licence/permit register number of the waste collection agent or disposal/recovery operator should be supplied as well as the expiry date of the relevant permits.

Supporting information should form **Attachment N° H.2**

### H.3 Waste disposal by on-site landfilling

For wastes to be disposed of by landfilling on-site, full details of the disposal site should be submitted (to include *inter alia*, site selection procedures, location maps, (no larger than A3) geology, hydrogeology, operational plan, containment, gas and leachate management, post-closure care).

Supporting information should form **Attachment N<sup>o</sup> H.3.**

## SECTION I: EXISTING ENVIRONMENT & IMPACT OF THE ACTIVITY

**Describe the conditions of the site of the installation.**

**Provide an assessment of the effects of any emissions on the environment, including on an environmental medium other than that into which the emissions are made.**

**Describe, where appropriate, measures for minimising pollution over long distances or in the territory of other states.**

See Attachment I 0.

#### I.1. Assessment of atmospheric emissions

Describe the existing environment in terms of air quality with particular reference to ambient air quality standards.

Provide a statement whether or not emissions of main polluting substances (as defined in the Schedule of S.I. 394 of 2004) to the atmosphere are likely to impair the environment.

Give summary details and an assessment of the impacts of any existing or proposed emissions on the environment, including environmental media other than those into which the emissions are to be made.

**Attachment N<sup>o</sup> I.1** should also contain full details of any dispersion modelling of atmospheric emissions from the activity, where required. When carrying out dispersion modelling, regard should be had to the "Guidelines for the Preparation of Dispersion Modelling Assessments for Compliance with Regulatory Requirements – an Update to Royal Meteorological Society Guidance" or similar guidelines from a recognised authority.

#### I.2. Assessment of Impact on Receiving Surface Water

Describe the existing environment in terms of water quality with particular reference to environmental quality standards or other legislative standards. Table I.2(i) should be completed

Provide a statement whether or not emissions of main polluting substances (as defined in the Schedule of S.I. 394 of 2004) to water are likely to impair the environment.

Give summary details and an assessment of the impacts of any existing or proposed emissions on the environment, including environmental media other than those into which the emissions are to be made.

Full details of the assessment and any other relevant information on the receiving environment should be submitted as **Attachment I 2.**

#### I.3. Assessment of Impact of Sewage Discharge.

Give summary details and an assessment of the impacts of any existing or proposed emissions on the environment, including environmental media other than those into which the emissions are to be made.

Full details of the assessment and any other supporting information should form **Attachment I 3**.

#### I.4 Assessment of Impact of Ground/Groundwater Emissions

Describe the existing groundwater quality. Table I.4(i) should be completed.

Give summary details and an assessment of the impacts of any existing or proposed emissions on the ground (aquifers, soils, sub-soils and rock environment), including any impact on environmental media other than those into which the emissions are to be made. This includes landspreading, land injection etc.

Land on which material may be landspread shall be identified on a suitable scaled map (1:10,560 and 1:50,000) and submitted as no greater than A3 size. All vulnerable (as a result of ground emissions) surface water bodies must be identified on these maps. Additional information should be included in **Attachment I 4**.

Landspreading of Agricultural/Non Agricultural Wastes

Tables I.4(ii) and I.4.(iii) should be complete where applicable. Further information is available in the Application Guidance Document.

#### I.5 Ground and/or Groundwater Contamination

Summary details of known ground and/or groundwater contamination, historical or current, on or under the site must be given.

Full details including all relevant investigative studies, assessments, or reports, monitoring results, location and design of monitoring installations, plans, drawings, documentation, including containment engineering, remedial works, and any other supporting information should be included in **Attachment I 5**.

#### I.6 Assessment of the Environmental Impact of On-site Waste Recovery and/or Disposal.

Describe the arrangements for the prevention and recovery of waste generated by the activity.

Give details, and an assessment of the impact of any existing or proposed on-site waste recovery/disposal on the environment, including environmental media other than those into which the emissions are to be made.

This information should form **Attachment I 6**.

#### I.7 Noise Impact

Give details and an assessment of the impacts of any existing or proposed emissions on the environment, including environmental media other than those into which the emissions are to be made.

Ambient noise measurements

Complete Table I.7(i) in relation to the information required below:

- (i) State the maximum Sound Pressure Levels which will be experienced at typical points on the boundary of the operation. (State sampling interval and duration)
- (ii) State the maximum Sound Pressure Levels which will be experienced at typical noise sensitive locations, outside the boundary of the operation.
- (iii) Give details of the background noise levels experienced at the site in the absence of noise from this operation.

Prediction models, maps (no larger than A3), diagrams and supporting documents, including details of noise attenuation and noise proposed control measures to be employed, should form **Attachment I 7**.

#### I.8 Environmental Considerations and BAT

#### **Describe in outline the main alternatives, if any, to the proposals contained in the application.**

Describe any environmental considerations which have been made with respect to the use of cleaner technologies, waste minimisation and raw material substitution.

Describe the measures proposed or in place to ensure that:

- (a) The best available techniques are or will be used to prevent or eliminate or, where that is not practicable, generally reduce an emission from the activity;
- (b) no significant pollution is caused;
- (c) waste production is avoided in accordance with Council Directive 75/442/EEC of 15 July 1975 on waste; where waste is produced, it is recovered or, where that is technically and economically impossible, it is disposed of while avoiding or reducing any impact on the environment;
- (d) energy and other resources are used efficiently;
- (e) the necessary measures are taken to prevent accidents and limit their consequences;
- (f) the necessary measures are taken upon definitive cessation of activities to avoid any pollution risk and return the site of operation to a satisfactory state.

Supporting information should form **Attachment I 8**.

### **SECTION J: ACCIDENT PREVENTION & EMERGENCY RESPONSE**

Describe the existing or proposed measures, including emergency procedures, to minimise the impact on the environment of an accidental emission or spillage.

Also outline what provisions have been made for response to emergency situations outside of normal working hours, i.e. during night-time, weekends and holiday periods.

Describe the arrangements for abnormal operating conditions including start-up, leaks, malfunctions or momentary stoppages.

Supporting information should form **Attachment N° J**.

### **SECTION K: REMEDIATION, DECOMMISSIONING, RESTORATION & AFTERCARE**

Describe the existing or proposed measures to minimise the impact on the environment after the activity or part of the activity ceases operation, including provision for post-closure care of any potentially polluting residuals.

Supporting information should be included as **Attachment No. K**.

## SECTION L: STATUTORY REQUIREMENTS

Indicate how the requirements of Section 83(5)(a)(i) to (v) and (vii) to (x) of the EPA Acts, 1992 and 2003 shall be met, having regard, where appropriate, to any relevant specification issued by the Agency under section 5 (3) of the Act and the reasons for the selection of the arrangements proposed.

Indicate whether or not the activity is carried out, or may be carried out, or is located such that it is liable to have an adverse effect on -

- (a) a site placed on a list in accordance with Chapter 1 of SI 94 of 1997, or
- (b) a site where consultation has been initiated in accordance with Article 5 of the EU Habitats Directive (92/43/EEC), or
- (c) a European site as defined in Article 2 of SI 94 of 1997

Indicate whether or not the activity is liable to have an adverse effect on water quality in light of S.I. No. 258 of 1998 (Local Government (Water Pollution) Act, 1977 (Water Quality Standards for Phosphorus) Regulations, 1998).

Indicate whether any of the substances specified in the Schedule of the EPA (Licensing)(Amendment) 2004, S.I. 394 of 2004, are discharged by the activity to the relevant medium.

### Fit and Proper Person

The PoE Act in Section 83(5)(xi) specifies that the Agency shall not grant a licence unless it is satisfied that the applicant or licensee or transferee as the case may be is a fit and proper person. Section 84(4) of the PoE Act specifies the information required to enable a determination to be made by the Agency.

- Indicate whether the applicant or other relevant person has been convicted under the PoE Act, the Waste Management Act 1996, the Local Government (Water pollution) Acts 1977 and 1990 or the Air Pollution Act 1987.
- Provide details of the applicant's technical knowledge and/or qualifications, along with that of other relevant employees.
- Provide information to show that the person is likely to be in a position to meet any financial commitments or liabilities that may have been or will be entered into or incurred in carrying on the activity to which the application relates or in consequence of ceasing to carry out that activity.

Supporting information should be included as **Attachment N<sup>o</sup> L** with reference to where the information can be found in the application.

**SECTION M: DECLARATION**

**Declaration**

I hereby make application for a licence / revised licence, pursuant to the provisions of the Environmental Protection Agency Acts, 1992 and 2003 and Regulations made thereunder.

I certify that the information given in this application is truthful, accurate and complete.

I give consent to the EPA to copy this application for its own use and to make it available for inspection and copying by the public, both in the form of paper files available for inspection at EPA and local authority offices, and via the EPA's website. This consent relates to this application itself and to any further information, submission, objection, or submission to an objection whether provided by me as Applicant, any person acting on the Applicant's behalf, or any other person.

**Signed by:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
(on behalf of the organisation)

**Print signature name:** \_\_\_\_\_

**Position in organisation:** \_\_\_\_\_

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## **ANNEX 1: TABLES/ATTACHMENTS**

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**Table E.1 (i) BOILER EMISSIONS TO ATMOSPHERE** (1 Page for each emission point)

**Emission Point:**

Emission Point Ref. N°:	A2	
Location:	Filling Floor	
Grid Ref. (12 digit, 6E,6N):		
<b>Vent Details</b>	<b>Diameter (m):</b> 0.6	<b>Height above Ground (m):</b> 7
Date of commencement of emission:		

**Characteristics of Emission:**

<b>Boiler rating</b> Steam Output: Thermal Input:			0 kg/hr (not applicable) 0.081 – 0.200 MW
<b>Boiler fuel</b> Type: Maximum rate at which fuel is burned % sulphur content:			Gas kg/hr (Net Efficiency 87.2%)
NOx			119 mg/Nm <sup>3</sup> 0°C. 3% O <sub>2</sub> (Liquid or Gas), 6% O <sub>2</sub> (Solid Fuel)
Maximum volume* of emission			m <sup>3</sup> /hr 0°C, 3 % O <sub>2</sub> (liquid or gas), 6 % O <sub>2</sub> (solid fuel)
Temperature	°C(max)	°C(min)	°C(avg)

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\* Volume flow limits for emissions to atmosphere shall be based on Normal conditions of temperature and pressure, (i.e. 0°C,101.3kPa), dry gas; 3% oxygen for liquid and gas fuels; 6% oxygen for solid fuels.

(i) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up/shutdown to be included*):

Periods of Emission (avg)	_____ 60 min/hr _____ 8 hr/day _____ 153 day/yr [a]
---------------------------	---

[a] This value takes into account that during the period from May to August, the heater is rarely used.

**Emission Point:**

Emission Point Ref. N°:	A3	
Location:	Manufacturing / Boiler House	
Grid Ref. (12 digit, 6E,6N):	313622, 240006	
<b>Vent Details</b>	<b>Diameter (m):</b> 0.6	<b>Height above Ground (m):</b> 4.5
Date of commencement of emission:		

**Characteristics of Emission:**

<b>Boiler rating</b>		
Steam Output:		1300 kg/hr
Thermal Input:		960 MW
<b>Boiler fuel</b>		
Type:		Gas
Maximum rate at which fuel is burned		1364 kg/hr
% sulphur content:		24 mg/N m <sup>3</sup> (SO <sub>2</sub> )
NOx		172 mg/Nm <sup>3</sup>
Maximum volume* of emission		0°C. 3% O <sub>2</sub> (Liquid or Gas), 6% O <sub>2</sub> (Solid Fuel) m <sup>3</sup> /hr
Temperature	°C(max)      °C(min)	0°C, 3 % O <sub>2</sub> (liquid or gas), 6 % O <sub>2</sub> (solid fuel) °C(avg)

\* Volume flow limits for emissions to atmosphere shall be based on Normal conditions of temperature and pressure, (i.e. 0°C,101.3kPa), dry gas; 3% oxygen for liquid and gas fuels; 6% oxygen for solid fuels.

(i) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up/shutdown to be included*):

Periods of Emission (avg)	_____ 60 min/hr    _____ 8 hr/day    _____ 240 day/yr [a]
---------------------------	---

[a] This value takes into account that during the period from May to August, the heater is rarely used.

**Emission Point:**

Emission Point Ref. N°:	A5	
Location:	Meeting Room, Office	
Grid Ref. (12 digit, 6E,6N):		
<b>Vent Details</b>	<b>Diameter (m):</b> 0.6	<b>Height above Ground (m):</b> 4.0
Date of commencement of emission:		

**Characteristics of Emission:**

<b>Boiler rating</b>		
Steam Output:		0 kg/hr (not applicable)
Thermal Input:		0.041 – 0.046 MW
<b>Boiler fuel</b>		
Type:		Gas
Maximum rate at which fuel is burned		kg/hr (Net Efficiency 89.9%)
% sulphur content:		24 mg/N m <sup>3</sup> (SO <sub>2</sub> )
NOx		235 mg/Nm <sup>3</sup>
Maximum volume* of emission		0°C. 3% O <sub>2</sub> (Liquid or Gas), 6% O <sub>2</sub> (Solid Fuel) m <sup>3</sup> /hr
Temperature	°C(max)      °C(min)	0°C, 3 % O <sub>2</sub> (liquid or gas), 6 % O <sub>2</sub> (solid fuel) °C(avg)

\* Volume flow limits for emissions to atmosphere shall be based on Normal conditions of temperature and pressure, (i.e. 0°C,101.3kPa), dry gas; 3% oxygen for liquid and gas fuels; 6% oxygen for solid fuels.

(i) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up/shutdown to be included*):

Periods of Emission (avg)	_____ 60 min/hr    _____ 8 hr/day    _____ 153 day/yr [a]
---------------------------	---

[a] This value takes into account that during the period from May to August, the heater is rarely used.

**TABLE E.1(ii) MAIN EMISSIONS TO ATMOSPHERE** (1 Page for each emission point)

Emission Point Ref. N <sup>o</sup> :	A2
Source of Emission:	Heater
Location:	Filling Floor
Grid Ref. (12 digit, 6E,6N):	
Vent Details	
Diameter (m):	0.6
Height above Ground(m):	7.0
Date of commencement:	

**Characteristics of Emission:**

(i) Volume to be emitted:			
Average/day	Nm <sup>3</sup> /d	Maximum/day	Nm <sup>3</sup> /d
Maximum rate/hour	Nm <sup>3</sup> /h	Min efflux velocity	m.sec <sup>-1</sup>
(ii) Other factors			
Temperature	°C(max)	°C(min)	°C(avg)
For Combustion Sources: Volume terms expressed as : <input type="checkbox"/> wet. <input type="checkbox"/> dry.        _____ %O <sub>2</sub>			

(iii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included*):

Periods of Emission (avg)	_____ 60 min/hr    _____ 8 hr/day    _____ 153 day/yr [1]
---------------------------	---

[1] This value takes into account that during the period from May to August, the heater is rarely used.

**TABLE E.1(ii) MAIN EMISSIONS TO ATMOSPHERE** (1 Page for each emission point)

Emission Point Ref. N <sup>o</sup> :	A3
Source of Emission:	Boiler (Manufacturing)
Location:	Boiler House
Grid Ref. (12 digit, 6E,6N):	313622, 240006
Vent Details	
Diameter (m):	0.6
Height above Ground(m):	4.5
Date of commencement:	

**Characteristics of Emission:**

(i) Volume to be emitted:			
Average/day	Nm <sup>3</sup> /d	Maximum/day	Nm <sup>3</sup> /d
Maximum rate/hour	Nm <sup>3</sup> /h	Min efflux velocity	m.sec <sup>-1</sup>
(ii) Other factors			
Temperature	°C(max)	°C(min)	°C(avg)
For Combustion Sources: Volume terms expressed as : <input type="checkbox"/> wet. <input type="checkbox"/> dry.        _____ %O <sub>2</sub>			

(iii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included*):

Periods of Emission (avg)	_____ 60 min/hr    _____ 8 hr/day    _____ 240 day/yr [1]
---------------------------	---

[1] This value takes into account that during the period from May to August, the heater is rarely used.

**TABLE E.1(ii) MAIN EMISSIONS TO ATMOSPHERE** (1 Page for each emission point)

Emission Point Ref. N <sup>o</sup> :	A5
Source of Emission:	Boiler
Location:	Meeting Room, Offices
Grid Ref. (12 digit, 6E,6N):	
Vent Details	
Diameter (m):	0.6
Height above Ground(m):	4.0
Date of commencement:	

**Characteristics of Emission:**

(i) Volume to be emitted:			
Average/day	Nm <sup>3</sup> /d	Maximum/day	Nm <sup>3</sup> /d
Maximum rate/hour	Nm <sup>3</sup> /h	Min efflux velocity	m.sec <sup>-1</sup>
(ii) Other factors			
Temperature	°C(max)	°C(min)	°C(avg)
For Combustion Sources: Volume terms expressed as : <input type="checkbox"/> wet. <input type="checkbox"/> dry.        _____ %O <sub>2</sub>			

(iii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included*):

Periods of Emission (avg)	_____ 60 min/hr    _____ 8 hr/day    _____ 153 day/yr [1]
---------------------------	---

[1] This value takes into account that during the period from May to August, the heater is rarely used.

**TABLE E.1(iii): MAIN EMISSIONS TO ATMOSPHERE - Chemical characteristics of the emission**

(1 table per emission point)

**Emission Point Reference Number:** A2 (Heater, Filling floor)\_\_\_\_\_

Parameter	Prior to treatment [1]				Brief description of treatment	As discharged [1, 2]					
	mg/Nm <sup>3</sup>		kg/h			mg/Nm <sup>3</sup>		kg/h.		kg/year	
	Avg	Max	Avg	Max		Avg	Max	Avg	Max	Avg	Max
CO						< 1					
NO <sub>x</sub>						119					
SO <sub>2</sub>						< 1					
Net Efficiency						87.2%					
Gross Efficiency						79.1%					

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[1] Concentrations are based on Normal conditions of temperature and pressure, (i.e. 0°C,101.3kPa).

[2] Wet/dry should be the same as given in Table E.1(ii) unless clearly stated otherwise.

**Emission Point Reference Number:** A3 (Boiler, Manufacturing) \_\_\_\_\_

Parameter	Prior to treatment [1]				Brief description of treatment	As discharged [1, 2]					
	mg/Nm <sup>3</sup>		kg/h			mg/Nm <sup>3</sup>		kg/h.		kg/year	
	Avg	Max	Avg	Max		Avg	Max	Avg	Max	Avg	Max
CO						9					
NO <sub>x</sub>						172					
SO <sub>2</sub>						2					
Net Efficiency						87.8%					
Gross Efficiency						79.7%					

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[1] Concentrations are based on Normal conditions of temperature and pressure, (i.e. 0°C,101.3kPa)

[2] Wet/dry should be the same as given in Table E.1(ii) unless clearly stated otherwise.

**Emission Point Reference Number:** A5 (Boiler, Meeting Room, Offices)\_\_\_\_\_

Parameter	Prior to treatment [1]				Brief description of treatment	As discharged [1, 2]					
	mg/Nm <sup>3</sup>		kg/h			mg/Nm <sup>3</sup>		kg/h.		kg/year	
	Avg	Max	Avg	Max		Avg	Max	Avg	Max	Avg	Max
CO						331					
NO <sub>x</sub>						235					
SO <sub>2</sub>						24					
Net Efficiency						89.9%					
Gross Efficiency						81.6%					

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[1] Concentrations are based on Normal conditions of temperature and pressure, (i.e. 0°C,101.3kPa).

[2] Wet/dry should be the same as given in Table E.1(ii) unless clearly stated otherwise.

**TABLE E.1(iv): EMISSIONS TO ATMOSPHERE - Minor atmospheric emissions**

Emission point Reference Numbers	Description	Emission details <sup>1</sup>				Abatement system employed
		material	mg/Nm <sub>3(2)</sub>	kg/h.	kg/year	

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1 The maximum emission should be stated for each material emitted, the concentration should be based on the maximum 30 minute mean.

2 Concentrations should be based on Normal conditions of temperature and pressure, (i.e. 0°C/101.3kPa). Wet/dry should be clearly stated. Include reference oxygen conditions for combustion sources.

**TABLE E.1(v): EMISSIONS TO ATMOSPHERE – Fugitive and Potential atmospheric emissions**

Emission point ref. no. (as per flow diagram)	Description	Malfunction which could cause an emission	Emission details (Potential max. emissions) [1]		
			Material	mg/Nm <sup>3</sup>	kg/hour
	Displacement of kerosene vapour upon refilling of the bulk storage tank		Kerosene	0.010 kg/m-3	0.005 kg/m <sup>-3</sup> ·hour [2]

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[1] Estimate the potential maximum emission for each malfunction identified.

[2] This value is based on the fact that it typically takes 2 hours to refill the tank.

**TABLE E.2(i): EMISSIONS TO SURFACE WATERS**

(One page for each emission)

**Emission Point: SW1**

Emission Point Ref. N <sup>o</sup> :	Surface Water Drain Plan		
Source of Emission:	Rainwater from roof via surface drains		
Location:	SW1		
Grid Ref. (12 digit, 6E,6N):	313668 239934		
Name of receiving waters:	Tolka River		
Flow rate in receiving waters:		_____ 0 m <sup>3</sup> .sec <sup>-1</sup> Dry Weather Flow [1]	
		_____ m <sup>3</sup> .sec <sup>-1</sup> 95%ile flow	
Available waste assimilative capacity:			??? kg/day

[1] All attempts to measure the flow rate of surface water into the drain in dry weather were unsuccessful.

**Emission Details:**

(i) Volume to be emitted			
Normal/day	0.022 m <sup>3</sup> [2]	Maximum/day	0.16 m <sup>3</sup> [3]
Maximum rate/hour	0.0067 m <sup>3</sup> [3]		

[2] This value is based on the average of the measured flow rates on the site, the assumption that on a wet day it rains 50% of the time and Met Eireann's claim that the average number of wet days along the east coast is 150 days per year (<http://www.met.ie/climate/rainfall.asp>, accessed 16 may 08).

[3] These values are based on the assumption that the maximum flow rates (measured over 15-second periods) is maintained for 1 and 24 hours.

(ii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included*):

Periods of Emission (avg)	_____ 60_min/hr _____ 24_hr/day _____ 365_day/yr
---------------------------	--

**TABLE E.2(ii): EMISSIONS TO SURFACE WATERS - Characteristics of the emission** (1 table per emission point)

**Emission point reference number : SW1**

Parameter	Prior to treatment				As discharged				% Efficiency
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	Max. hourly average (mg/l)	Max. daily average (mg/l) [1]	kg/day	kg/year	
Total Alkalinity (as CaCO <sub>3</sub> )		80				80			
Orthophosphate (as PO <sub>4</sub> )		0.40				0.40			
Sulphates (as SO <sub>4</sub> )		5				5			
Chemical Oxygen Demand		15				15			

[1] The values for are the same as the values because surface water is not treated prior to discharge.

**TABLE E.3(i): EMISSIONS TO SEWER** (One page for each emission)

The manufacture of detergent at this site does involve discharges to the sewer and these discharges are regulated under the conditions of the current licence (IPPC Reg. 0075-2). The manufacture and packing of adhesive and wood preservative at this site does not generate chemical waste and does not result in discharges to the sewer.

**Emission Point:**

Emission Point Ref. N <sup>o</sup> :	ASE1
Location of connection to sewer:	
Grid Ref. (12 digit, 6E,6N):	313620, 239966
Name of sewage undertaker:	Dublin City Council

**Emission Details:**

(i) Volume to be emitted			
Normal/day	3 m <sup>3</sup> [1]	Maximum/day	3 m <sup>3</sup> [1]
Maximum rate/hour	2.5 m <sup>3</sup>		

[1] These maximum rates are determined by the conditions of the current licence (IPPC Reg. 0075-2).

(ii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included*):

Periods of Emission (avg)	_____ 15 min/hr _____ 1 hr/day _____ 210 day/yr [2]
---------------------------	---

[2] This estimated value reflects the fact the emissions to the sewer occur on most but not all workings days in the year.

**TABLE E.3(ii): EMISSIONS TO SEWER - Characteristics of the emission** (1 table per emission point)

The manufacture of wood preservative at this site does not result in any discharges of effluent to the sewer. The values in the table below are the result of the manufacture of detergents.

**Emission point reference number :** ASE1 \_\_\_\_\_

Parameter	Prior to treatment				As discharged				% Efficiency
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day [1]	kg/year [2]	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day [1]	kg/year [2]	
Chemical Oxygen Demand	11375	11375	11.375	2616	11375	11375	11.375	2616	0% [4]
Biological Oxygen Demand	5367	5367	5.367	1234	5367	5367	5.367	1234	0% [4]
Suspended Solids	2010	2010	2.01	462	2010	2010	2.01	462	0% [4]
Oils, Fats & Greases	5.69	5.69	0.0057	1.3	5.69	5.69	0.0057	1.3	0% [4]
Detergent	92.8	92.8	0.0928	21.3	92.8	92.8	0.0928	21.3	0% [4]
Phosphate (as PO <sub>4</sub> )	1.1	1.1	0.0011	0.24	1.1	1.1	0.0011	0.24	0% [4]
Sulphate (as SO <sub>4</sub> )	260	260	0.26	59.8	260	260	0.26	59.8	0% [4]
pH	10.5	10.5	[3]	[3]	6.6	6.6	[3]	[3]	NA [5]
Temperature (°C)	13	13	[3]	[3]	13	13	[3]	[3]	0% [4]

[1] These values are a reflection an average discharge of 3 tonnes of effluent per day are discharged to the sewer.

[2] These values are based on the estimation that discharges of effluent to the sewer occur 230 days per year [see Table E.3 (i), Emission Details, Part (ii)].

[3] Not applicable.

[4] No treatment is applied to adjust these parameters as regular testing by an ILAB-accredited, external laboratory indicates that the values of all parameters are within the limits defined by the license. The temperature of the effluent is measured internally and is also found to be within the limits defined by the license.

[5] No value is quoted for the efficiency with which the pH is adjusted before discharge as pH is a logarithmic quantity. However, the pH of the discharged effluent, as measured by an ILAB-accredited, external laboratory, indicates that it is within the limits defined by the license.

**TABLE E.4(i): EMISSIONS TO GROUND** (1 Page for each emission point)

There are no emissions to ground as a result of any activities on the site.

Emissions to groundwaters occur, indirectly, as result of the discharge of rainwater, which enters the surface water outfall, controlled by Dublin City Council. These emissions are regulated under the conditions of the current licence (IPPC Reg. 0075-2).

**Emission Point or Area:**

Emission Point/Area Ref. N°:	
Emission Pathway: (borehole, well, percolation area, soakaway, landspreading, etc.)	
Location :	
Grid Ref. (12 digit, 6E,6N):	
Elevation of discharge: (relative to Ordnance Datum)	
Aquifer classification for receiving groundwater body:	
Groundwater vulnerability assessment (including vulnerability rating):	
Identity and proximity of groundwater sources at risk (wells, springs, etc):	
Identity and proximity of surface water bodies at risk:	

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**Emission Details:**

(i) Volume to be emitted			
Normal/day	m <sup>3</sup>	Maximum/day	m <sup>3</sup>
Maximum rate/hour	m <sup>3</sup>		

(ii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included*):

Periods of Emission (avg)	_____min/hr _____hr/day _____day/yr
---------------------------	-------------------------------------

**TABLE E.4(ii): EMISSIONS TO GROUND - Characteristics of the emission** (1 table per emission point)

Not applicable, for reasons given in Table E.4(i).

**Emission point/area reference number:** \_\_\_\_\_

Parameter	Prior to treatment				As discharged				% Efficiency
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	

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**Table E.5(i): NOISE EMISSIONS - Noise sources summary sheet**

Source	Emission point Ref. No [2]	Equipment Ref. No.	Sound Pressure [1] dBA at reference distance	Octave bands (Hz) Sound Pressure [1] Levels dB (unweighted) per band								Impulsive or tonal qualities	Periods of Emission [3]	
				31.5	63	125	250	500	1K	2K	4K			8K
Adhesive area door	1		72		73	67	71	66	64	63	64	66		
Bolier house	2		69		70	66	71	61	60	60	55	50		
Pump house at 2 m	3		82		70	66	67	76	76	78	74	71		
Pump at rear of water tower at 1 m	4		76		74	77	70	72	72	68	66	57		
Entrance to warehouse	5 [4]		- [4]		- [4]	- [4]	- [4]	- [4]	- [4]	- [4]	- [4]	- [4]		
Wall extraction fan at 5 m	6		76		69	64	65	74	75	63	51	40		
Extraction grill at 1 m	7		70		74	69	63	70	66	59	51	42		
Pressure washer cleaning ground		8	72		66	64	65	69	64	64	65	67		

[1] For items of plant sound power levels may be used.

[2] The location of the areas 1 – 7 are identified in Attachment E 5A.

[3] The period of emission for the values quoted is 08:00 hours to 17:30 hours, Monday to Friday.

[4] Since the measurements were made, the manufacture of hot-melt adhesives has ceased and this has resulted in a massive reduction of the area of Emission point Ref. No. 5.

**TABLE F.1(i): ABATEMENT / TREATMENT CONTROL**

The data described below refers to the abatement / treatment control applied to the effluent discharge tank. However, there is no abatement / treatment control associated with the manufacture of wood preservative on the site as the activity does not results in additions to the effluent.

**Emission point reference number** :ASE1\_\_\_\_\_

Control [1] parameter	Equipment [2]	Equipment maintenance	Equipment calibration	Equipment back-up
pH	Acid, 25-litre container	[4]	Not applicable	Not applicable
pH	Alkaline solution, 25-litre container	[4]	Not applicable	Not applicable

Control [1] parameter	Monitoring to be carried out [3]	Monitoring equipment	Monitoring equipment calibration
pH	Effluent of pH is measured. The pH should be in the range 6 – 10 before discharge	Hydrogen ion selective electrode	The pH electrode is calibrated every second day or more often if required.

- [1] List the operating parameters of the treatment / abatement system which control its function.
- [2] List the equipment necessary for the proper function of the abatement / treatment system.
- [3] List the monitoring of the control parameter to be carried out.
- [4] No maintenance as the container is carried as these containers are not used to store other materials.

**TABLE F.2(i) : EMISSIONS MONITORING AND SAMPLING POINTS**

( 1 table per monitoring point)

**Emission Point Reference No.** :Surface Water (SW1)\_\_\_\_\_

Parameter	Monitoring frequency	Accessibility of Sampling Points	Sampling method	Analysis method/ technique
Appearance	Daily	Safe		Visual Inspection
pH	Weekly	Safe		pH electrode / meter
C.O.D.	Weekly	Safe		Standard method

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**TABLE F.2(i) : EMISSIONS MONITORING AND SAMPLING POINTS**

( 1 table per monitoring point)

**Emission Point Reference No. :A2** (Heater, Filling Floor) \_\_\_\_\_

Parameter	Monitoring frequency	Accessibility of Sampling Points	Sampling method	Analysis method/ technique
Combustion Efficiency	Biannually	Safe	Grab	Flue gas analyser

**Emission Point Reference No. A3** (Manufacturing / Boiler House) \_\_\_\_\_

Parameter	Monitoring frequency	Accessibility of Sampling Points	Sampling method	Analysis method/ technique
Combustion Efficiency	Biannually	Safe	Grab	Flue gas analyser

**Emission Point Reference No. : A5** (Meeting Room, Offices) \_\_\_\_\_

Parameter	Monitoring frequency	Accessibility of Sampling Points	Sampling method	Analysis method/ technique
Combustion Efficiency	Biannually	Safe	Grab	Flue gas analyser

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**TABLE F.2(i) : EMISSIONS MONITORING AND SAMPLING POINTS**

( 1 table per monitoring point)

**Emission Point Reference No. :** Sewer (ASE1)\_\_\_\_\_

Parameter	Monitoring frequency	Accessibility of Sampling Points	Sampling method	Analysis method / technique
Chemical Oxygen Demand	Bimonthly	Safe	Composite over discharge period	Digestion, Spectrophotometric
Biological Oxygen Demand	Bimonthly	Safe	Composite over discharge period	Dissolved oxygen probe
Suspended Solids	Bimonthly	Safe	Composite over discharge period	Gravimetric
Detergent	Bimonthly	Safe	Composite over discharge period	Extraction, Spectrophotometric
Phosphate (as PO <sub>4</sub> )	Bimonthly	Safe	Composite over discharge period	Spectrophotometric
Sulphate (as SO <sub>4</sub> )	Bimonthly	Safe	Composite over discharge period	Spectrophotometric
pH	Bimonthly	Safe	Grab	Hydrogen ion selective electrode
Temperature (°C)	Bimonthly	Safe	Grab	

**TABLE F.2(ii): AMBIENT ENVIRONMENT MONITORING AND SAMPLING POINTS** ( 1 table per monitoring point)

As stated elsewhere in this application, the manufacture of wood preservative at this site does not involve discharges to the municipal sewer, the atmosphere, the ground, ground waters or surface waters. Therefore, no ambient monitoring is proposed for this activity.

**Monitoring Point Reference No** : \_\_\_\_\_

Parameter	Monitoring frequency	Accessibility of Sampling point	Sampling method	Analysis method / technique
		<p style="color: red; text-align: center; transform: rotate(-45deg); font-size: small;">For inspection purposes only. Consent of copyright owner required for any other use.</p>		

**Table G.1(i) Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site**

Code	Material/ Substance <sup>(1)</sup>	CAS Number	Danger <sup>(2)</sup> Category	Amount Stored (tonnes)	Annual Usage (tonnes)	Nature of Use	R <sup>(3)</sup> - Phrase	S <sup>(3)</sup> - Phrase
	Softened Water	7732-18-5	-		1350	Solvent	-	-
SP 1001	Vilkyd 211 LA70 (Synolac 60WD 70) Resin (40 - 90%) White Spirit (10 - 60%)	- 64742-48-9		0.98	12	Solvent	R10, R66	S16, S24, S25
SP 1002	Sandalkyd Fast Green 3 GLS (chlorinated phthalocyanine) Low b.p. petroleum (30 - 35%) Hydrosulfurized petroleum (<15%)	8052-41-3 265-185-4	Xn	0.2	2.2	Pigment dispersion	R10, R52/53	S7, S23, S61
SP 1003	Methyl Ethyl Ketoxime	96-29-7	Xn	0.15	0.9	Anti-skinning agent	R21, R40, R41, R43	S13, S23, S26, S36/37/39
SP 1004	Wocosan Technical (Propiconazole)	60207-90-1	Xn, N	0.6	3.3	Fungicide	R22, R43, R50/53	S2, S13, S20/21, S36/37, S46, S61
SP 1005	Permethrin [(3-phenoxyphenyl)methyl(+/-)-cis,trans-3-(2,2-dichloroethenyl)-2,2-dimethylcyclopropanecarboxylate, cis:trans ratio 25:75]	52645-53-1	Xn, N	0.3	0.65	Fungicide	R20/22, R36/37/38, R43, R50, R53	S2, S13, S24/25, S36/37/39, S60, S61
SP 1006	Automate Brown Dye Xylene (30 - 50%) Ethylbenzene (7 - 10%) Ethylhexylmine (0.1 - 0.2%)	1330-20-7 100-41-4 104-75-6	Xn	0.02	0.06	Dye	R10, R20/21, R38	S23, S24, S36/37

SP 1008	Odourless Kerosene	64771-71-7	Xn, Xi	21.6	310	Solvent	R65	S24/25, S37, S43, S62
SP 1010	Quadrikan AT / Berol 563 / Surfak ARF (Quaternary fatty amine ethoxylate)	68989-03-7	Xi, N	0.8	1.8	Surfactant	R41, R51, R53	S26, S39, S61
SP 1011	Pine Oil 90 (Mixed terpene alcohols and hydrocarbons)	8002-09-3	Xi	2.9	20	Solvent	R36/37/38	S23, S26, S28, S36, S37, S39
SP 1014	Dowanol DPM (Dipropylene glycol methyl ether)	34590-94-8	-	0.78	0.5	Surfactant	-	-
SP 1015	Troysan Polyphase P100 (3-Iodo-2-propynyl butyl carbamate)	55406-53-6	Xn, Xi, N	0.12	0.14	Fungicide	R20, R22, R41, R50	S22, S26, S36, S37, S39, S60
SP 1018	Imbentin C/91/080 OFA (Oxoalcohol C9/C11)	68-131-39-5	Xn	0.6	1.7	Surfactant	R22, R36/38	S2, S28
SP 1021	Tebuconazole [(RS)-1-p-chlorophenyl-4,4-dimethyl-3-(1H-1,2,4 triazol-1-ylmethyl)3 pentanol]	107534-96-3	Xn, N	0.55	2.3	Fungicide	R22, R51/53, R63	S22, S36/37, S61
SP 1022	Linopol KO (Lankropol KO) Sodium dioctyl sulphosuccinate (55 - 65 %) Ethanol (15 - 19%) Methanol (<1%) Water (10 - 30%)	577-11-7 64-17-5 67-56-1 7732-18-5	Xi	0.8	10	Surfactant	R10, R38, R41	S-16, S-26, S-37/39
SP 1023	Linosa LPC (Ethylene oxide-propylene oxide copolymer)	9003-11-6	-	0.8	13	Surfactant	-	-
SP 1024	Linosa FAP 208 (Ethoxylated isotridecanol, 80%)	69011-36-5	Xn	2	25	Surfactant	R22, R41	S25, S26, S39

SP 1025	Polybor (Disodium octoborate tetrahydrate)	12280-03-4	-	2.4	12	Corrosion inhibitor	-	-
SP 1027	Tego Antifoam AS 10	Emulsion of polysiloxanes	-	0.02	0.02	Anti-foaming agent	-	-
SP 1032	EFKA 5207 (Hydroxy functional unsaturated modified carboxylic acid)	Emulsion of amines and esters	-	0.75	4	Dispersion agent	-	-
SP 1033	Empigen AB/E (C10-16 alkyldimethyl amine)	67700-98-5	C	0.3	30	Surfactant	R34, R41, R43	S26, S28B, S37, S39
SP 1034	Benzoic Acid	65-85-0	Xn	0.075	12	Corrosion inhibitor	R22, R41	S2, S22, S25, S26, S39, S40, S46

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Code	Material/ Substance [1]	CAS Number	Danger [2] Category	Amount Stored (tonnes)	Annual Usage (tonnes)	Nature of Use	R [3] - Phrase	S [3] -Phrase
F 1405/14	E 415	Not applicable	N	22	600	Wood preservative	R50/53	S2, S23, S26, S28, S36/37, S60, S61
F 1679/1	Wall Solution 250	Not applicable	Xi	0	4	Wood preservative	R41	S2, S20/21, S23, S26, S28, S36/37/39, S60, S61
F 1764/4	Universal AQ 250	Not applicable	Xi, N	0	3	Wood preservative	R36, R43, R50/53	S24, S26, S37, S60, S61
F 1962	E 406	Not applicable	N	22	600	Wood preservative	R50/53	S2, S23, S26, S28, S36/37/39, S60, S61
F 1973	Protim Green	Not applicable	Xn, N	2	233	Wood preservative	R43, R50, R51/53, R65	S2, S13, S16, S24/25, S26, S28, S36/37, S60, S61, S62
F 2000	Protim Universal	Not applicable	Xn, N	1	68	Wood preservative	R43, R50, R51/53, R65	S2, S13, S16, S24/25, S26, S28, S36/37, S60, S61, S62
F 2001	Protim Brown	Not applicable	Xn, N	1	60	Wood preservative	R43, R50, R51/53, R65	S2, S13, S16, S24/25, S26, S28, S36/37, S60, S61, S62
F 2029	Brooks Wood Preserver – Clear	Not applicable	Xi, N	0	3	Wood preservative	R43, R50, R52/53	S2, S24, S26, S28, S36/37/39, S60, S61

F 2030	Brooks Wood Preserver – Brown	Not applicable	Xi, N	0	3	Wood preservative	R43, R50, R52/53	S2, S24, S26, S28, S36/37/39, S60, S61
F 2031	Brooks Wood Preserver – Green	Not applicable	Xi, N	0	3	Wood preservative	R43, R50, R52/53	S2, S24, S26, S28, S36/37/39, S60, S61

- Notes:
1. In cases where a material comprises a number of distinct and available dangerous substances, please give details for each component substance.
  2. c.f. Article 2(2) of SI N<sup>o</sup> 77/94
  3. c.f. Schedules 9 and 10 of SI No 62/2004

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**Tables G.1(i) contd. Electricity Usage Associated with Processes**

<b>Code</b>	<b>Product</b>	<b>Estimate of Energy Used per Year by Step (kW)</b>
F 1405/14	E 415	1780.8
F 1764/4	Universal AQ 250	150
F 1962	E 406	980
F 1973	Protim Green	1080
F 2000	Protim Universal	172.5
F 2001	Protim Brown	172.5
F 2029	Brooks Universal	8.7
F 2029	Brooks Green	8.7
F 2030	Brooks Brown	8.7
F 2031	Wall Solution 250	27
<b>Total (kW h)</b>		<b>4388.8</b>
<b>Total (MW h)</b>		<b>4.39</b>

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**Table G.1(ii) Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site**

Code	Material / Substance <sup>(1)</sup>	TA Luft Class 1, 2 or 3	Odour			EU Lists I and II (Tick and specify Group/Family Number)			
			Odourous Yes/No	Description	Threshold $\mu\text{g}/\text{m}^3$	Dangerous Substances Directive 76/464/EEC		Groundwater Directive 80/68/EEC	
						List I	List II +129 <sup>4</sup>	List I	List II
	Soft Water	-	No	-	- [5]	- [6]	- [6]	- [6]	- [6]
SP 1001	Vilkyd 211 LA70 (Synolac 60WD 70) Resin (40 – 90%) White Spirit (10 – 60%)	-	Yes	Paraffin-like	$9 \times 10^5$	- [6]	- [6]	- [6]	- [6]
SP 1002	Sandalkyd Fast Green 3 GLS (chlorinated phthalocyanine pigment dispersion) Low b.p. petroleum (30 – 35%) Hydrosulfurized petroleum (<15%)	-	No		- [5]	- [6]	- [6]	- [6]	- [6]
SP 1003	Methyl Ethyl Ketoxime	-	Yes	Ether like	- [5]	- [6]	- [6]	- [6]	- [6]
SP 1004	Wocosan Technical (Propiconazole)	-	Yes	Slight		- [6]	Yes [Fungicide]	-	Yes [Fungicide]
SP 1005	Permethrin [(3-phenoxyphenyl)methyl(+/-)-cis,trans-3-(2,2-dichloroethenyl)-2,2-dimethylcyclopropanecarboxylate, cis:trans ratio 25:75]	-	Yes	Mild	500	- [6]	Yes [Insecticide]	-	Yes [Insecticide]
SP 1006	Automate Brown Dye Xylene (30 – 50%) Ethylbenzene (7 – 10%) Ethylhexylmine (0.1 – 0.2%)	-	Yes	Aromatic	100 ppm $4.4 \times 10^5$	- [6]	- [6]	- [6]	- [6]

SP 1008	Odourless Kerosene	-	Yes	Mild	1 X 10 <sup>6</sup>	- [6]	- [6]	- [6]	- [6]
SP 1010	Quadrilan AT / Berol 563 / Surfac ARF (Quaternary fatty amine ethoxylate)	-			- [5]	- [6]	- [6]	- [6]	- [6]
SP 1011	Pine Oil 90 (Mixed terpene alcohols and hydrocarbons)	-	Yes	Pine like	- [5]	- [6]	- [6]	- [6]	- [6]
SP 1014	Dowanol DPM (Dipropylene glycol methyl ether)	-			100 ppm	- [6]	- [6]	- [6]	- [6]
SP 1015	Troysan Polyphase P100 (3-Iodo-2-propynyl butyl carbamate)	-			- [5]		Yes [Fungicide]		Yes [Fungicide]
SP 1018	Imbentin C/91/080 OFA (Oxoalcohol C9/C11)	-	Yes	Slight but distinctive	- [5]	- [6]	- [6]	- [6]	- [6]
SP 1021	Tebuconazole [(RS)-1-p-chlorophenyl-4,4-dimethyl-3-(1H-1,2,4 triazol-1-ylmethyl)3 pentanol]	-	Yes	Slight but distinctive	- [5]	- [6]	Yes [Insecticide]	- [6]	Yes [Insecticide]
SP 1022	Linopol KO (Lankropol KO) Sodium dioctyl sulphosuccinate (55 - 65 %) Ethanol (15 - 19%) Methanol (<1%) Water (10 - 30%)	-	Yes	Faint	- [5]	- [6]	- [6]	- [6]	- [6]
SP 1023	Linosa LPC (Ethylene oxide-propylene oxide copolymer)	-	- [5]	- [5]	- [5]	- [6]	- [6]	- [6]	- [6]
SP 1024	Linosa FAP 208 (Ethoxylated isotridecanol, 80%)	-	Yes	Mild	- [5]	- [6]	- [6]	- [6]	- [6]
SP 1025	Polybor (Disodium octoborate tetrahydrate)	-	- [5]	- [5]	1 X 10 <sup>4</sup>	- [6]	- [6]	- [6]	- [6]
SP 1027	Tego Antifoam AS 10	-	Yes	Slight, specific	- [5]	- [6]	- [6]	- [6]	- [6]

SP 1032	EFKA 5207 (Hydroxy functional unsaturated modified carboxylic acid)	-	Yes	Slight, distinctive	- [5]	- [6]	- [6]	- [6]	- [6]
SP 1033	Empigen AB/E (C10-16 alkyldimethyl amine)	-	Yes	Slight	- [5]	- [6]	- [6]	- [6]	- [6]
SP 1034	Benzoic Acid	-	Yes	Odourless or slight Benzaldehyde-like odour	- [5]	- [6]	- [6]	- [6]	- [6]

Notes (cont.): 4. The European Commission priority candidate list

5. No value available

6. Not included on the specified lists.

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Code	Material / Substance <sup>(1)</sup>	TA Luft Class 1, 2 or 3	Odour			EU Lists I and II (Tick and specify Group/Family Number)			
			Odourous Yes/No	Description	Threshold $\mu\text{g}/\text{m}^3$	Dangerous Substances Directive 76/464/EEC		Groundwater Directive 80/68/EEC	
						List I	List II +129 <sup>4</sup>	List I	List II
F 1405/14	E 415	- [6]	Yes	Characteristic of anti-septics	- [5]	- [6]	- [6]	- [6]	- [6]
F 1679/1	Wall Solution 250	- [6]	Yes	Slight	- [5]	- [6]	- [6]	- [6]	- [6]
F 1764/4	Universal AQ 250	- [6]	Yes	Slight	- [5]	- [6]	- [6]	- [6]	- [6]
F 1962	E 406	- [6]	Yes	Characteristic of anti-septics	- [5]	- [6]	- [6]	- [6]	- [6]
F 1973	Protim Green	- [6]	Yes	Oil-like	- [5]	- [6]	- [6]	- [6]	- [6]
F 2000	Protim Universal	- [6]	Yes	Oil-like	- [5]	- [6]	- [6]	- [6]	- [6]
F 2001	Protim Brown	- [6]	Yes	Oil-like	- [5]	- [6]	- [6]	- [6]	- [6]
F 2029	Brooks Wood Preserver – Clear	- [6]	Yes	Characteristic of anti-septics	- [5]	- [6]	- [6]	- [6]	- [6]
F 2030	Brooks Wood Preserver – Brown	- [6]	Yes	Characteristic of anti-septics	- [5]	- [6]	- [6]	- [6]	- [6]
F 2031	Brooks Wood Preserver – Green	- [6]	Yes	Characteristic of anti-septics	- [5]	- [6]	- [6]	- [6]	- [6]

Notes (cont.): 4. The European Commission priority candidate list

5. No value available

6. Not included on the specified lists.

**TABLE H.1(i): WASTE - Hazardous Waste Recovery/Disposal**

No hazardous waste is generated at this site.

Waste material	EWC Code	Main source <sup>1</sup>	Quantity		On-site Recovery/Disposal  (Method & Location )	Off-site Recovery, reuse or recycling  (Method, Location & Undertaker)	Off-site Disposal  (Method, Location & Undertaker)
			Tonnes / month	m <sup>3</sup> / month			

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<sup>1</sup> A reference should be made to the main activity / process for each waste.

**TABLE H.1(ii) WASTE - Other Waste Recovery/Disposal**

Waste material	EWC Code	Main source [1]	Quantity		On-site recovery/disposal [2] (Method & Location)	Off-site Recovery, reuse or recycling (Method, Location & Undertaker)	Off-site Disposal (Method, Location & Undertaker)
			Tonnes / month	m <sup>3</sup> / month			
Steel Drums	15 01 04	Storage of raw materials	0.54	6	Washing	Recycled by A J Lacey	
Mixed Packaging	15 01 06	Packaging of raw materials	49	43	Removed in skips by Greyhound Waste	Sorted by Greyhound Waste and sent to recycling facilities	
Effluent from holding tank ('Sludge')	07 06 02	Wash down in manufacturing plant	0.33	0.33	Removed by Boyne Waste Services		Disposed of by landfill by Kildare Council
Effluent from discharge tank	08 04 03	Wash down of detergents in manufacturing plant	52.5	52.5	Discharge to sewer after adjustment of pH and temperature if necessary [3]		Treated and disposed of by Dublin City Council

- 1 A reference should be made to the main activity/ process for each waste.
- 2 The method of disposal or recovery should be clearly described and referenced to Attachment H.2.
- 3 Burgess Galvin & Co. Ltd. is required by the terms of its current IPPC license (Reg. P0075-02) to control several parameters of effluent discharged to the sewer. These parameters are listed in Table E.3(ii). The facilities for analysis that are available on site are limited to measuring pH and temperature. However, the results of independent analysis of effluent samples indicate that compliance with the limits for all the parameters is achieved.

**Table I.2(i) SURFACE WATER QUALITY**

(Sheet 1 of 2) Monitoring Point/ Grid Reference: SW1\_\_\_\_\_

Parameter	Results (mg/l)				Sampling method <sup>2</sup> (grab, drift etc.)	Normal Analytical Range <sup>2</sup>	Analysis method / technique
	9 May 08	Date	Date	Date			
pH	6.20				Grab		Hydrogen ion selective electrode
Temperature ( C)	11				Grab		Thermometer
Electrical conductivity EC							
Ammoniacal nitrogen NH <sub>4</sub> -N							
Chemical oxygen demand (mg/l)	15				Grab		Digestion, Spectrophotometric
Biochemical oxygen demand							
Dissolved oxygen DO							
Calcium Ca							
Cadmium Cd							
Chromium Cr							
Chloride Cl							
Copper Cu							
Iron Fe							
Lead Pb							
Magnesium Mg							
Manganese Mn							
Mercury Hg							

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## Surface Water Quality (Sheet 2 of 2)

Parameter	Results (mg/l)				Sampling method (grab, drift etc.)	Normal Analytical Range	Analysis method / technique
	9 May 08	Date	Date	Date			
Nickel Ni							
Potassium K							
Sodium Na							
Sulphate SO <sub>4</sub>	5				Grab		Spectrophotometric
Zinc Zn							
Total alkalinity (as CaCO <sub>3</sub> )	80				Grab		Titrimetric
Total organic carbon TOC							
Total oxidised nitrogen TON							
Nitrite NO <sub>2</sub>							
Nitrate NO <sub>3</sub>							
Faecal coliforms ( /100mls)							
Total coliforms ( /100mls)							
Phosphate PO <sub>4</sub>	0.40				Grab		Spectrophotometric

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**Table I.4(i) GROUNDWATER QUALITY****(Sheet 1 of 2)** Monitoring Point/ Grid Reference:

Emissions to groundwaters occur, indirectly, as result of the discharge of rainwater, which enters the surface water outfall, controlled by Dublin City Council. These emissions are regulated under the conditions of the current licence (IPPC Reg. 0075-2). The results of analysis of surface water on this site are detailed in Table I.2.

Parameter	Results (mg/l)				Sampling method (composite etc.)	Normal Analytical Range	Analysis method / technique
	Date	Date	Date	Date			
pH							
Temperature							
Electrical conductivity EC							
Ammoniacal nitrogen NH <sub>4</sub> -N							
Dissolved oxygen DO							
Residue on evaporation (180°C)							
Calcium Ca							
Cadmium Cd							
Chromium Cr							
Chloride Cl							
Copper Cu							
Cyanide Cn, total							
Iron Fe							
Lead Pb							
Magnesium Mg							
Manganese Mn							
Mercury Hg							
Nickel Ni							
Potassium K							
Sodium Na							

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## Groundwater Quality (sheet 2 of 2)

Parameter	Results (mg/l)				Sampling method (composite, dipper etc.)	Normal Analytical Range	Analysis method / technique
	Date	Date	Date	Date			
Phosphate PO <sub>4</sub>							
Sulphate SO <sub>4</sub>							
Zinc Zn							
Total alkalinity (as CaCO <sub>3</sub> )							
Total organic carbon TOC							
Total oxidised nitrogen TON							
Arsenic As							
Barium Ba							
Boron B							
Fluoride F							
Phenol							
Phosphorus P							
Selenium Se							
Silver Ag							
Nitrite NO <sub>2</sub>							
Nitrate NO <sub>3</sub>							
Faecal coliforms ( /100mls)							
Total coliforms ( /100mls)							
Water level (m OD)							

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**TABLE I.4(ii): LIST OF OWNERS/FARMERS OF LAND**

Not applicable as waste generated on the site is disposed of off site.

Land Owner	Townlands where landspreading	Map Reference	Fertiliser P requirement for each farm
			*NMP must take account of on-farm slurry

Total P requirement of the client List \_\_\_\_\_

**TABLE I.4(ii): LANDSPREADING**

Not applicable as waste generated on the site is disposed of off site.

Land Owner/Farmer \_\_\_\_\_

Map Reference \_\_\_\_\_

Field ID	Total Area (ha)	(a) Usable Area (ha)	Soil P Test Mg/l	Date of P test	Crop	P Required (kg P/ha)	Volume of On-Farm Slurry Returned (m <sup>3</sup> /ha)	Estimated P in On-Farm Slurry (kg P/ha)	(b) Volume to be Applied (m <sup>3</sup> /ha)	P Applied (kg P/ha)	Total Volume of imported slurry per plot (m <sup>3</sup> )

**TOTAL VOLUME THAT CAN BE IMPORTED ON TO THE FARM:**

Concentration of P in landspread material	- kg P/m <sup>3</sup>
Concentration of N in landspread material	- kg N/m <sup>3</sup>

**Table I.7(i): AMBIENT NOISE ASSESSMENT****Third Octave analysis for noise emissions should be used to determine tonal noises**

	National Grid Reference	Sound Pressure Levels		
	(6N, 6E)	L(A) <sub>eq</sub>	L(A) <sub>10</sub>	L(A) <sub>90</sub>
<b>1. SITE BOUNDARY</b>				
Location 1:	[1]	66		58
Location 2:	[1]	60		51
Location 3:	[1]	77		75
Location 4:				
<b>2. NOISE SENSITIVE LOCATIONS</b>				
Location 1:				
Location 2:				
Location 3:				
Location 4:	[1]	72		54

[1] These locations are identified in Figure 1 of **Attachment E 5** (the broken squares numbered 1 – 4).

**NOTE: All locations should be identified on accompanying drawings.**

## ANNEX 2: CHECKLIST FOR ARTICLE 10 COMPLIANCE

Article 10 of the Environmental Protection Agency (Licensing) Regulations, 1994 to 2004 sets out the statutory requirements for information to accompany a licence application. The Application Form is designed in such a way as to set out these questions in a structured manner and not necessarily in the order presented in Article 10. In order to ensure a legally valid application in respect of Article 10 requirements, all Applicants should complete the following checklist and submit it with the completed Application Form.

<b>Article 10(2)</b>		<b>Section in Application</b>	<b>Checked by Applicant ✓</b>
(a)	give the name, address and telephone number of the applicant and, if different, any address to which correspondence relating to the application should be sent and, if the applicant is a body corporate, the address of its registered or principal office,	B.1	
(b)	give - (i) in the case of an established activity, the number of employees and other persons working or engaged in connection with the activity on the date after which a licence is required and during normal levels of operation, or	B.4	
	(ii) in any other case, the gross capital cost of the activity to which the application relates,	B.4	
(c)	give the name of the planning authority in whose functional area the activity is or will be carried on,	B.5	
(d)	in the case of a discharge of any trade effluent or other matter (other than domestic sewage or storm water) to a sewer of a sanitary authority, give the name of the sanitary authority in which the sewer is vested or by which it is controlled,	B.5	
(e)	give the location or postal address (including where appropriate, the name of the relevant townland or townlands) and the National Grid reference of the premises to which the activity relates,	B.2	
(f)	specify the relevant class or classes in the First Schedule to the Act to which the activity relates,	B.3	
(g)	specify the raw and ancillary materials, substances, preparations, fuels and energy which will be produced by or utilised in the activity,	G.1 Tables G.1(i) and G.1(ii)	
(h)	describe the plant, methods, processes, ancillary processes, abatement, recovery and treatment systems, and operating procedures for the activity,	D.1	

<b>Article 10(2) continued../</b>		<b>Section in Application</b>	<b>Checked by Applicant ✓</b>
(i)	indicate how the requirements of section 83(5)(a)(i) to (v) and (vii) to (x) of the Act shall be met, having regard, where appropriate, to any relevant specification issued by the Agency under section 5(3) of the Act and the reasons for the selection of the arrangements proposed,	<i>L</i>	
(j)	give particulars of the source, nature, composition, temperature, volume, level, rate, method of treatment and location of emissions, and the period or periods during which the emissions are made or are to be made,	<i>E</i>	
(k)	describe the arrangements for the prevention or minimisation of waste and, where waste is produced, the on- and off-site arrangements for the recovery or disposal of solid and liquid wastes,	<i>D, H.2, I.6</i>	
(l)	specify, by reference to the relevant European Waste Catalogue codes as prescribed by Commission Decision 2000/532/EC of 03 May 2000, the quantity and nature of the waste or wastes produced or to be produced by the activity,	<i>H.2 Table H.1(ii)</i>	
(m)	provide: (i) details, and an assessment, of the impacts of any existing or proposed emissions on the environment, including on an environmental medium other than that or those into which the emissions are or are to be made, and (ii) details of the proposed measures to prevent or eliminate, or where that is not practicable, to limit, reduce or abate emissions,	<i>I.1 - I.7  I.8</i>	
(n)	identify monitoring and sampling points and outline proposals for monitoring emissions and the environmental consequences of any such emissions,	<i>F.2, F.3 Table F.2(i)</i>	
(o)	describe the condition of the site of the installation,	<i>I.0</i>	
(p)	describe in outline the main alternatives, if any, to the proposals contained in the application which were studied by the applicant,	<i>I.8</i>	
(q)	specify the measures to be taken to comply with an environmental quality standard where such a standard requires stricter conditions to be attached to a licence than would otherwise be determined by reference to best available techniques,	<i>I.8</i>	

<b>Article 10(2) continued../</b>		<b>Section in Application</b>	<b>Checked by Applicant ✓</b>
(r)	describe the measures to be taken for minimising pollution over long distances or in the territory of other states,	<i>I</i>	
(s)	describe the measures to be taken under abnormal operating conditions, including start-up, shutdown, leaks, malfunctions, breakdowns and momentary stoppages,	<i>J</i>	
(t)	describe the measures to be taken on and following the permanent cessation of the activity or part of the activity to avoid any risk of environmental pollution and to return the site of the activity to a satisfactory state,	<i>K</i>	
(u)	describe, in the case of an activity which gives, or could give rise, to an emission containing a hazardous substance which is discharged to an aquifer and is specified in the Annex to Council Directive 80/68/EEC of 17 December 1979 on the protection of groundwater against pollution caused by certain dangerous substances, the arrangements necessary to comply with said Council Directive,	<i>E.4</i>	
(v)	include any other information required under Article 6(1) of Council Directive 96/61/EC of 24 September 1996 concerning integrated pollution prevention and control,	<i>B.10</i>	
(w)	include a non-technical summary of information provided in relation to the matters specified in paragraphs (f) to (v) above,	<i>A</i>	
(x)	state whether the activity consists of, comprises, or is for the purposes an establishment to which the European Communities (Control of Major Accident Hazards involving Dangerous Substances) Regulations, 2000 apply,	<i>B.9</i>	

<b>Article 10(3)</b> Without prejudice to Article 12(1), an application for a licence shall be accompanied by -		<b>Section in Application</b>	<b>Checked by Applicant ✓</b>
(a)	a copy of the relevant page of the newspaper in which the notice in accordance with article 6 has been published,	<i>B.8</i>	
(b)	a copy of the text of the site notice erected or fixed on the land or structure in accordance with article 7,	<i>B.8</i>	
(c)	a copy of the notice given to the planning authority under section 85(1)(a) of the Act,	<i>B.8</i>	
(d)	a copy of such plans, including a site plan and location map (no larger than A3), and such other particulars, reports and supporting documentation as are necessary to identify and describe -	<i>B.8</i>	
	(i) the activity	<i>B.8, D</i>	
	(ii) the position of the site notice in accordance with article 7,	<i>B.8</i>	
	(iii) the point or points from which emissions are made or are to be made, and	<i>E</i>	
	(iv) monitoring and sampling points, and	<i>F</i>	
(e)	a fee specified in accordance with section 94 of the Act.	<i>Included</i>	

<b>Article 10(4)</b>		<b>Checked by Applicant ✓</b>
(b)	<p>A signed original and 2 hardcopies of the application and accompanying documents/particulars in hardcopy format plus 2 copies of all files in electronic searchable PDF format on CD-Rom shall be submitted to the headquarters of the Agency.</p> <p>In cases where an E.I.S. is required to be submitted to the Agency in support of the application, a signed original and 2 hardcopies of the EIS plus 16* copies of all files in electronic searchable PDF format on CD-Rom shall be submitted to the headquarters of the Agency.</p> <p>* Energy sector applicants = 18 copies</p>	
	Hardcopies submitted.	
	CD version submitted.	

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## **Attachment A 1 – Non-technical Summary**

### **The Installation and its Activities**

Burgess Galvin & Co. Ltd. has been manufacturing detergents since 1948 and has been operating from its present location in Finglas since 1971. Batch mixing is the method of manufacture. Detergents represent 80% of the company's turnover. The company also manufacture adhesives and as a result, it holds an Integrated Pollution Prevention and Control (IPPC) license (Reg. P0075-2).

The company wishes to seek a review of the terms of its license to add an additional activity — the manufacture of water-based and organic solvent-based wood preservatives — to its IPPC license. The water-based products are likely to constitute 85% of the turnover for wood preservatives manufactured, with the solvent-based products making up the remaining 15%.

### **Use of Materials**

The technology and type of equipment utilised for both types of product is the same as that already used to process detergents and adhesives.

### ***Solvent-based Wood Preservative***

The solvent-based wood preservative is manufactured in three forms: colourless, brown and green. The batch size is typically 1000 litres. The colourless product is manufactured by warming a small amount of odourless kerosene and a fungicide to 25 C. This premix is then added to the main bulk of the odourless kerosene, along with another fungicide.

The brown variant is manufactured in the same way but includes the addition of a brown dye. The green product is a combination of the colourless form and another premix consisting of odourless kerosene, a surfactant, a green pigment, methyl ethyl ketoxime (MEK) and a dispersant.

In the case of all three products, the processing vessels are never washed out. Instead, the residue from one batch is used to manufacture the next batch.

### ***Water-based Wood Preservative***

The most common water-based product is manufactured in 20-tonne lots. Water and an organic amine are mixed with a high-shear Silverson mixer. Solid benzoic acid is added and the solution is mixed for 1 hour. A premix of pine oil, fungicides and surfactants is also prepared in a dedicated container, which is never washed out. The benzoic acid solution and the oil premix is added to water and the mixture is circulated for 4 hours. As with the solvent-based product, no waste is generated and there is no cleaning out of these tanks at any stage.

## **Prevention of Waste**

The steps described above are essentially blending processes — for both types of wood preservative (water- and solvent-based), no chemical reactions take place to produce new chemical species. The materials used mix easily with little agitation and no heat is generated. There are no side reactions, meaning that the blending processes generate no waste and that dedicated process vessels can be used repeatedly without cleaning.

This makes the activity comply Directive 2006/12/EC of the European Parliament and of the Council of 5 April 2006 on waste (the codified version of Directive 75/442/EEC as amended).

## **Use of Equipment**

The only new equipment required for the new activity are three 20-tonne storage tanks (for the water based wood preservatives) and a new bund.

## **Use of Energy**

The manufacture of wood preservative on the site involves the use of minimal amounts of energy (in driving electrically-operated blenders) because the materials involved blend easily and the blending times are very short [see Table G.1(i) for energy consumption data]. Some raw materials are heated before use but temperature ranges involved are small, typically 15 – 30 C.

Furthermore, no additional energy is used in cleaning the processing vessels as no waste is generated.

## **Environmental Conditions and Prevention of Emissions**

Conditions at the site are controlled according to the terms of the current license (Reg. P0075-02).

There are no known issues with environmental conditions (ground, groundwater, air, noise, surface water, sewer) of the site. Furthermore, there is no evidence to suggest that activities at the site have a harmful effect on environmental conditions at the site or external to it.

## **Execution of General Principles of Environmental Management**

### ***Handling of Accidental Spillages***

Solid adsorbent would be used to control the extent of liquid spillages if they occur.

### ***Handling of Emergency Situations Outside of Normal Working Hours***

External security personnel monitor the site outside of normal working hours. If a large spillage of material took place on one of the outdoor areas on the site, the security personnel would be likely to notice it and key holders of the site would be contacted in a pre-defined order. The key holder shall determine what action needs to be taken (s/he may decide to visit the site to assess the hazard before deciding on further action or s/he may decide to call the emergency services immediately).

If none of the keyholders are available, the emergency services shall be called and informed of the emergency. The emergency services have been previously instructed on the possible hazards that can occur on the site and their locations.

### ***Cessation of Activities***

In the event of cessation of the activity or part of the activity, the measures described below would be employed to minimize the environmental impact.

The water-based products are made to order and no stock is held. The amount of the solvent-based product held in stock is very low. In the case of both types of product, if production ceased, Protim Abrasives Ltd. would be responsible for handling the remaining raw materials and product.

### **Environmental Impact**

Burgess Galvin & Co. Ltd. already use (in manufacturing adhesive and/or detergent products) and are licensed to use almost all of the materials required to manufacture the Protim wood preservatives. The exception is the fungicides, which account for an average of ~0.8% of the wood preservative formulations. Furthermore, the fungicides are very similar in nature to the preservatives that used to manufacture adhesives on the site and the biocides incorporated into anti-bacterial detergent products.

Odourless kerosene is already stored on the site in bulk, and the only emissions to air from this source are fugitive emissions, which occur upon refilling the tank. The only other volatile material used in the manufacture of these products is MEK but the low usage of this material (less than 1 tonne per annum) means that it does not present a problem. As stated above, there are no washings in either process and therefore, no discharges to the sewer or surface waters. There is no increase in noise levels either.

As stated above, there are no washings in either process and, therefore, no discharge to the sewer resulting from either process.

Furthermore, there is no increase in the noise levels on the site as a result of the manufacture of wood preservatives on the site.

## **Conclusion**

In summary, Burgess Galvin & Co. Ltd. believe that the manufacture of wood preservative at its site will not result in a significant increase in the risk to the environment.

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## **Attachment B 1 – Details of Company Registration and Certification**

A Certified Copy of the company's Certificate of Incorporation is included as part of this application (**Attachment B 1A**).

The company's registration number from the Companies' Registration Office is:  
297018

Particulars of Registered Office of the Company are:  
Burgess Galvin & Co. Ltd.  
Jamestown Road  
Finglas  
Dublin 11.

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Consent of copyright owner required for any other use.*



# Short Certificate of Incorporation of a Company (Electronic Form, for Public Service Use only)

**I hereby certify**

that company number **297018**,  
**BURGESS GALVIN & CO. LIMITED**,  
was Incorporated under the Companies Acts, 1963 to 1990,  
as a Limited Company on  
**Thursday, the 26th day of November, 1998.**

Certified by me at Dublin, this **Thursday, the 24th day of April, 2008.**

( 271D69 )

Registrar of Companies

Paul Farrell

Companies Act 1963, section 370(1); Electronic Commerce Act 2000, sections 12 and 13

**Note**

The above certificate of incorporation is furnished free of charge by the registrar of companies and is valid solely for public service use. A process has been put in place whereby, where necessary, the certificate may be verified by a public service body on inquiry to the registrar.

The applicant for any public service who is required to produce a certificate of incorporation must certify below that the certificate has not been tampered with in any way. The certificate shall be retained by the public service organisation that requires its delivery and may be used as evidence of any wrongful use.

I, (name) MICHAEL O'DRUGHLIN  
of (address) BURGESS GALVIN & CO., JAMES TOWN ROAD, FINELAS, DUBLIN 11

hereby declare that this is one and the same as the Certificate of Incorporation of the above company that was made available electronically, for public service use, at my request, by the registrar of companies. I further declare that to the best of my knowledge, information and belief, the said Certificate has not been altered or amended in any way. I acknowledge that it is a criminal offence to forge a public document with intent to defraud or deceive, and that it is an offence to utter a forged document with intent to defraud or deceive, in each case punishable with imprisonment for a term not exceeding two years.

I make this Declaration for the benefit of

(name of public body) ENVIRONMENTAL PROTECTION AGENCY

to whom I am furnishing the Certificate.

Michael O'Drughlin 24/04/08  
Signature of Applicant Date



## Schedule Conditions

### Waste Management (Collection Permit) Regulations, 2001

# WASTE COLLECTION PERMIT

Permit Register Reference Number CP D417/3

**Dublin City Council** being a nominated authority under Section 34(1)(a)(a) of the Waste Management Acts, 1996 and 2001, has granted a waste collection permit to **Aidan Lacey T/A Aidan C. Lacey Recycling** hereinafter called the permit holder, of **Clonard Road, Ballbriggan, Co. Dublin** subject to the attached schedule of conditions.

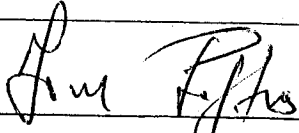
The permit holder is authorised by this permit to collect the waste types outlined in Condition 1.2 in the following local authority areas only:

**Dublin City Council**  
**Dun Laoghaire-Rathdown County Council**  
**Fingal County Council**  
**South Dublin County Council**

The permit holder shall only use vehicles with the following registration numbers for the purpose of waste collection as set out in the permit:

**94 D 48512**

The permit holder shall only transfer waste to the facilities outlined in condition 2.2 of this permit.

  
\_\_\_\_\_  
**Head of Waste Management Services**

Dated this 30<sup>th</sup> day of January 2004

LOCAL GOVERNMENT (PLANNING AND DEVELOPMENT) ACT, 1963

P1925.30.10.69.SB/MF

To Burgess Galvin & Co. Ltd., Reference Number in Register of the  
Address: Jamestown Road, County Borough of Dublin... 1212/69.  
Finglas,  
DUBLIN 11.

Application by Burgess Galvin & Co. Ltd.,  
of Jamestown Road, Finglas, on 22nd July, 1969,  
for a Permission/Approval for Erection of Factory  
at Jamestown Road, Finglas, Plan No. 237/69A.

A Permission/Approval has been granted for the development described above ~~because~~  
XX

- subject to the following conditions. (1) This permission specifically excluded the future extension shown in dotted outline on the lodged plans. This extension will have to form a subject of a separate application for planning permission.
- (2) Off-street car parking space for an additional 13 cars to be provided within the curtilage of the site. Each such space to measure not less than 16' by 8'.
- (3) No sign or advertisement to be erected externally on the premises without a prior grant of permission from the Corporation or from the Minister for Local Government on appeal.
- (4) Subject to any amendment arising from the requirements of the Chief Fire Officer, the Chief Medical Officer (Dublin Health Authority), the Engineering Department and/or the building bye-laws the development to be carried out in strict conformity with the plans and specifications to which this permission relates. Approval under the building bye-laws to be obtained and all conditions of approval to be observed in the development.

P.T.O.  
Signed on behalf of the Right Honourable The Lord Mayor, Aldermen and Burgesses of Dublin

J. MOLLOY  
ASSISTANT CITY MANAGER

Date 3rd November, 1969.

CHECKED  
by: SFB  
and

Contd.

(5) The new front boundary fence shall be of substantial construction at least 18" high. The line of the front boundary shall be checked on site by A Corporation Representative before its erection begins. The proposer must also consult with Special Works Department of the Corporation re the level of the new front boundary fence and also the levels of the gateways therein. All surface water must be trapped and discharged into drains within the curtilage of the site behind new front boundary fence. Gradient of driveways shall not be steeper than 1 in 40 for a minimum distance of 20 feet immediately or radially inside front boundary fence.

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LOCAL GOVERNMENT (PLANNING AND DEVELOPMENT) ACT, 1963

for attention of P212. 19.3.70. SB/NR.  
To J. V. Galvin, Esq., Reference Number in Register of the  
Burgess Galvin & Co. Ltd., County Borough of Dublin 1976/69.  
Address Jamestown Road,  
Finglas,  
Dublin, 11.

Application by Burgess Galvin & Co. Ltd.,  
of Jamestown Road, Finglas. on 2nd December, 1969.  
for a Permission/~~Approval~~ for Factory  
at Jamestown Road, Finglas: Plan No. 237/69B.

A Permission/~~Approval~~ has been granted for the development described above ~~XXXXX~~  
~~XX~~

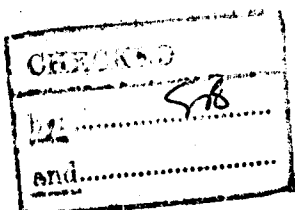
subject to the following conditions. (1) Subject to any amendment arising from the requirements of the Chief Fire Officer, the Chief Medical Officer, Dublin Health Authority, the Engineering Department and/or the building bye-laws, the development to be carried out in conformity with the plans and specifications to which this permission relates, Approval under the building bye-laws to be obtained and all conditions of approval to be observed in the development. (2) Off-street car parking space to be provided at a rate of 2 car parking spaces per 1,000 sq. ft. gross floor area. (3) The scheme of tree planting and landscaping to be carried out in strict conformity with the lodged plans. (4) The existing post and wire boundary fence to be replaced by a low wall, not less than 18" high with railings over. (5) The new front boundary fence shall be of substantial construction, at least 18" high. The line of the front boundary shall be checked on site by a Corporation Representative before its erection begins. (6) The proposer must also consult with Special Works Department of the Corporation re the level of the new front boundary fence and also the levels of the gateway therein. (7) All surface water to be trapped and discharged into drains within the curtilage of the site behind new front boundary fence. (8) Gradient of driveway not to be steeper than 1 in 40 for a minimum distance of 20 ft. immediately or radially inside front boundary. (9) The entire factory premises to be used solely for the manufacture of adhesives and sealants.

Signed on behalf of the Right Honourable The  
Lord Mayor, Aldermen and Burgesses of Dublin

J. MOLLOY

ASSISTANT CITY MANAGER

Date 1st April, 1970.



LOCAL GOVERNMENT (PLANNING AND DEVELOPMENT) ACT, 1963  
 Notification of Decision To Grant PERMISSION/~~APPROVAL~~ under

Section 26 of the Act.

COUNTY BOROUGH OF DUBLIN

MVH/NR.

To Attention of J.V. Galvin,  
Burgess Galvin & Co., Ltd.,  
Jamestown Road, Finglas,

Folio Number in P212. 30.1.70.  
 Planning Register 1976/69.

Application Received 2nd December, 1969

Dublin, 11.

In pursuance of the powers conferred upon them by the above mentioned Act, the Right Honourable the Lord Mayor, Aldermen and Burgesses of Dublin being the Planning Authority for the County

Borough of Dublin have by Order dated 30th January, 1970. decided to grant

~~PERMISSION/APPROVAL~~

for the development of land, namely:-

Factory at Jamestown Road, Finglas: Burgess Galvin & Co. Ltd.,:


Plan No. 237/69B.

subject to the conditions set out in Column 1 of the Schedule hereto. The reasons for the imposition of the said conditions are set out in Column 2 of the Schedule.

If there is no appeal against the said decision, a grant of Permission/~~Approval~~ in accordance with the decision will be issued after the expiration of the period within which an appeal may be made to the Minister for Local Government (see footnote).

It should be noted that until a grant of Permission/~~Approval~~ has been issued the development in question is NOT AUTHORIZED

Signed on behalf of the  
 Right Honourable the  
 Lord Mayor, Aldermen  
 and Burgesses of Dublin

  
 for City Manager and Town Clerk

Date: 30th January, 1970.

SCHEDULE

COLUMN 1 - CONDITIONS	COLUMN 2 - REASONS FOR CONDITIONS
(1) Subject to any amendment arising from the requirements of the Chief Fire Officer, the Chief Medical Officer, (Dublin Health Authority), the Engineering Dept., and/or the building bye-laws, the development to be carried out in	/Over.....

NOTE: An appeal against a decision of a Planning Authority under Section 26 of the Act of 1963 may be made to the Minister for Local Government.

The applicant for permission may appeal within one month beginning on the day of receipt by him of the decision. Any other person may appeal to the Minister within three weeks beginning on the date of the decision.

Appeals should be addressed to the Secretary, Department of Local Government (Planning Appeals Section), Custom House, Dublin, 1. An appeal by the applicant for permission should be accompanied by this form. In the case of an appeal by any other person, the name of the applicant, particulars of the proposed development and the date of the decision of the Planning Authority

COLUMN 1 - CONDITIONS

COLUMN 2 - REASONS FOR CONDITIONS

conformity with the plans and specifications to which this permission relates. Approval under the building bye-laws to be obtained and all conditions of approval to be observed in the development.

To achieve a satisfactory standard of construction and to prevent unauthorised development.

(2) Off-street car parking space to be provided at a rate of 2 car parking spaces per 1,000 square feet gross floor area.

To ensure adequate off-street car parking.

(3) The scheme of tree planting and landscaping to be carried out in strict conformity with the lodged plans.

To protect the amenity of the area.

(4) The existing post and wire boundary fence to be replaced by a low wall, not less than 18" high with railings over.

To protect the amenity of the area.

(5) The new front boundary fence shall be of substantial construction, at least 18" high. The line of the front boundary shall be checked on site by a Corporation Representative before its erection begins.

To protect the amenity of the area and to ensure a satisfactory standard of development.

(6) The proposer must also consult with Special Works Department of Corporation re the level of the new front boundary fence and also the levels of the gateway therein.

To ensure a satisfactory standard of development.

(7) All surface water to be trapped and discharged into drains within the curtilage of the site behind new front boundary fence.

To ensure a satisfactory standard of development.

(8) Gradient of driveway not to be steeper than 1 in 40 for a minimum distance of 20 ft. immediately or radially inside front boundary.

To ensure a satisfactory standard of development.

(9) The entire factory premises to be used solely for the manufacture of adhesives and sealants.

To prevent unauthorised development.

LOCAL GOVERNMENT (PLANNING AND DEVELOPMENT) ACT, 1963

SB/EW. P470. 30.4.70.

To Burgess, Galvin & Co. Ltd.,  
Address Jamestown Road,  
Finglas,  
Dublin 11.

Reference Number in Register of the  
County Borough of Dublin 379/70.

Application by Burgess, Galvin & Co. Ltd.,  
of Jamestown Road, Finglas, on 4th March 1970,  
for a Permission/~~Approval~~ for Factory  
at Jamestown Road, Finglas.

A Permission/~~Approval~~ has been granted for the development described above for use  
as Plan No. 431/70.

subject to the following conditions.

- (1) The premises to be used solely for:
  - (a) The manufacture of Adhesive Tapes and Paper Conversions.
  - (b) The manufacture of Adhesive and Sodium Silicate.
  - (c) The manufacture of Putty, Mastics, Sealants and Allied Products.
  - (d) The manufacture of Soaps, Detergents and Chemical Cleansers and Disinfectants.
  - (e) Oil, Fuel and Air Filters manufacturing.
  - (f) Warehousing.
- (2) The development to be completed in accordance with condition 1-8 attached  
to the permission granted by order dated 31st January, 1970.

Signed on behalf of the Right Honourable The  
Lord Mayor, Aldermen and Burgesses of Dublin

J. MOLLOY

ASSISTANT CITY MANAGER

Date 1st May, 1970.

CHECKED  
by: 8/5

# Notification of Decision To Grant **PERMISSION/** ~~APPROVAL~~ under Section 26 of the Act

COUNTY BOROUGH OF DUBLIN

To Burgess, Galvin & Co. Ltd.,  
Jamestown Road,  
Finglas, Dublin, 11.

MVH/KG.  
Folio Number in P470. 10.3.70.  
Planning Register 379/70.

Application Received 4th March, 1970.

In pursuance of the powers conferred upon them by the above mentioned Act, the Right Honourable the Lord Mayor, Aldermen and Burgesses of Dublin being the Planning Authority for the County Borough of Dublin have by order dated 10th March, 1970 decided to grant.

PERMISSION/~~APPROVAL~~

for the development of land, namely :—

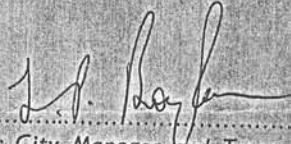
Factory at Jamestown Road, Finglas : Burgess, Galvin & Co. Ltd. : Plan No.  
431/70.

subject to the conditions set out in Column 1 of the Schedule hereto. The reasons for the imposition of the said conditions are set out in Column 2 of the Schedule.

If there is no appeal against the said decision, a grant of Permission/~~APPROVAL~~ in accordance with the decision will be issued after the expiration of the period within which an appeal may be made to the Minister for Local Government (See footnote).

It should be noted that until a grant of Permission/~~APPROVAL~~ has been issued the development in question is NOT AUTHORISED.

Signed on behalf of the  
Right Honourable the  
Lord Mayor, Aldermen  
and Burgesses of Dublin

  
for City Manager and Town Clerk.

Date : 12th March, 1970.

## SCHEDULE

Column 1—Conditions	Column 2—Reasons for Conditions
<p>(1) The premises to be used solely for: The manufacture of Adhesive Tapes and Paper Conversions.</p> <p>(b) The manufacture of Adhesive and Sodium Silicate.</p> <p>(c) The manufacture of Putty, Mastics, Sealants and Allied Products.</p> <p>(d) The manufacture of Soaps, Detergents and Chemical Cleansers and Disinfectants.</p> <p>(e) Oil, Fuel and Air Filters manufacturing.</p> <p>(f) Warehousing.</p> <p>(2) The development to be completed in accordance with conditions 1-8 attached to the permission granted by order dated 31st January, 1970.</p>	<p>To prevent unauthorised development.</p> <p>To ensure a satisfactory standard of development.</p>

NOTE : An appeal against a decision of a Planning Authority under Section 26 of the Act of 1963 may be made to the Minister for Local Government.

The applicant for permission may appeal within one month beginning on the day of receipt by him of the decision. Any other person may appeal to the Minister within three weeks beginning on the date of the decision.

Appeals should be addressed to the Secretary, Department of Local Government (Planning Appeals Section), Custom House Dublin 1. An appeal by the applicant for permission should be accompanied by this form. In the case of an appeal by any other person, the name of the applicant, particulars of the proposed development and the date of the decision of the Planning Authority should be stated.

## **Attachment B 6 – Details of Effluent Treated Off Site**

Effluent flows to a settlement tank, where the insoluble solids are deposited to form a semi-solid 'sludge' while the supernatant liquid transfers to an overflow tank.

The settlement tank takes several years to reach its capacity and is cleared several months before full capacity is reached. In January of 2008, the effluent from the settlement tank was removed by Boyne Waste Services and disposed of by Kildare County Council.

The permit held by Boyne Waste Services to collect and transport waste is included as part of this application as **Attachment H 2D**.

The documentation issued by Kildare County Council upon receipt of the 'sludge' is included as part of this application as **Attachment B 6A**.

*For inspection purposes only.  
Consent of copyright owner required for any other use.*

Contact Telephone No.

KCC 0789

**WASTE RECEIPT**

**KILDARE COUNTY COUNCIL**

DATE 26/1/08

TREATMENT PLANT Leixlip

Origin of Waste: <u>BERGASS GALVIN FINGLASS</u>	Waste Collection Permit No:
Waste Management Company: <u>Boyne Waste Co Dublin</u>	Volume Delivered: <u>13420 TONNES</u>
Vehicle Registration Number: <u>07 MH 29 50</u>	
Description / Comments: <u>Grey Clay Sludge</u>	
Signature (KCC): <u>C Cassidy</u>	Driver's Signature: <u>Tessie Keenan</u>

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## **Attachment B 8 – Copies of Site Notice, Map and Newspaper Advertisement**

This application contains

- a copy of the text of the site notice (Attachment 8A);
- a map showing the location of the site notice on site (Attachment 8B);
- two photographs showing the location of the site notice on site (Attachment 8C);
- a copy of the newspaper advertisement giving notice of the intention to apply for a revision of the terms of the license (Attachment 8D); and
- a copy of the notice given to the Planning Authority giving notice of the intention to apply for a revision of the terms of the license (Attachment 8E).

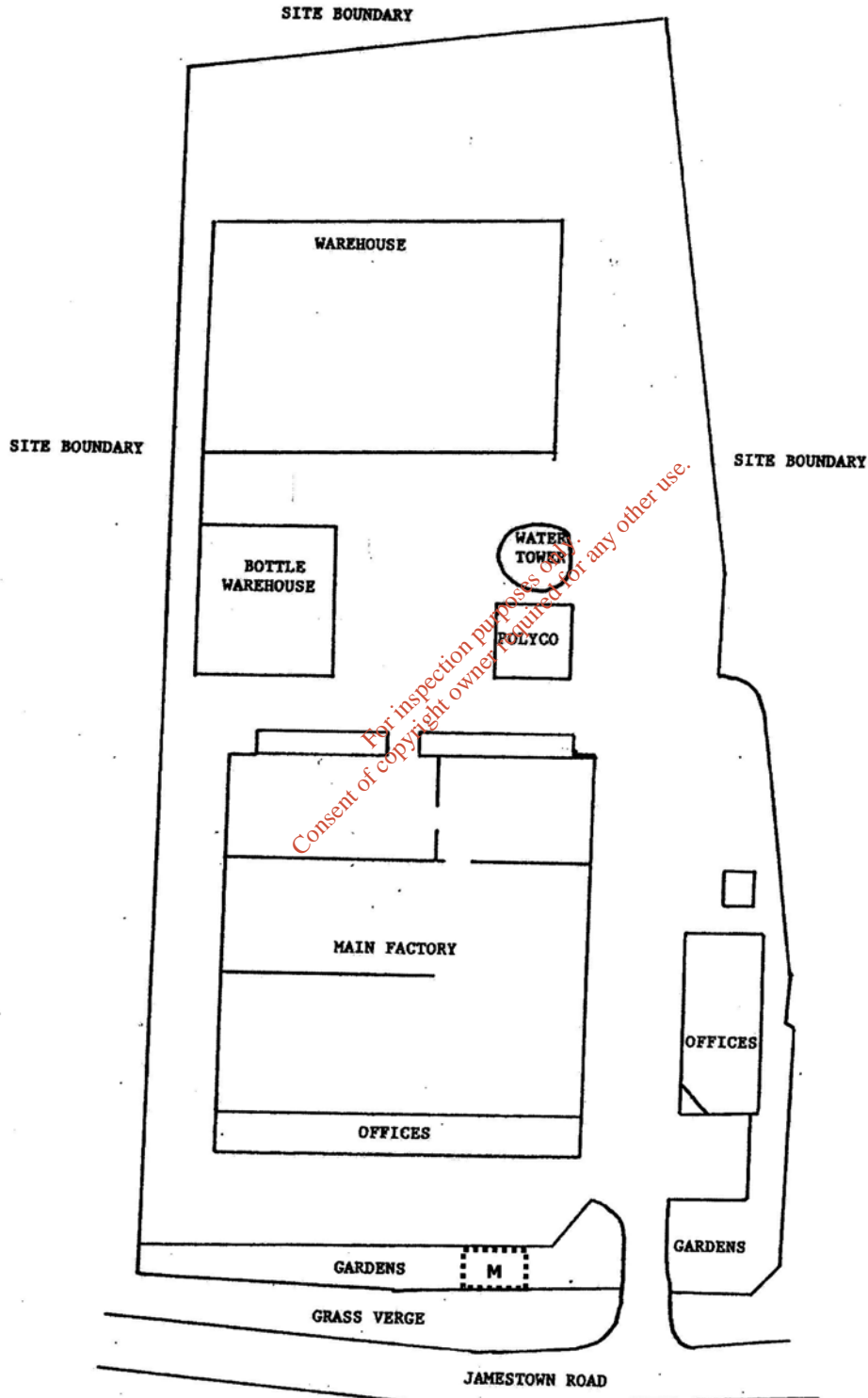
*For inspection purposes only.  
Consent of copyright owner required for any other use.*

## **SITE NOTICE**

### **APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY TO REVISE THE TERMS OF A LICENSE**

Burgess Galvin & Co. Ltd. of Jamestown Road, Dublin 11 will apply to the EPA for a revision of a license. It is proposed to add a new Class of Activity under the First Schedule of the Protection of the Environment Act 2003: 12.2.2 "The manufacture of coating materials in processes with a capacity to use at least 10 tonnes per year of organic solvents, not included in paragraph 12.2.1." The Activity at Jamestown Road, Dublin 11 is located at National Grid Reference 313611 E 239999 N. A copy of the application may be obtained from the agency (Tel. 1890 33 55 99; Website: <http://www.epa.ie/>) as soon as practicable after receipt by the agency of the application.

# Attachment B 8B – Map with Location of Site Notice



**Figure 1.** Site map with Location of Site Notice (Labelled M).



**Figure 2.** Satellite map of area where site is located.



For inspection purposes only.  
Content of copyright owner's property for any other use.

### SITE NOTICE

APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY TO REVISE THE TERMS OF A LICENSE

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Lumville Hse.,  
Tel: 621 1514.

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**NOTICE PURSUANT TO SECTION 311 OF THE COMPANIES ACT 1963**

JB Kieran Limited, having its registered office and its principal place of business at Market Square, Ardara Co. Louth, having ceased to trade and having no assets or liabilities, has resolved to notify the Registrar of Companies that the company is not carrying on business and to request the Registrar on that basis to exercise his powers pursuant to Section 311 of the Companies Act 1963, to strike the name of the Company off the Register.

By Order of the Board;  
Joseph Brian Kieran.

**APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY TO REVISE THE TERMS OF A LICENCE**

Burgess Galvin & Co. Ltd. of Jamestown Road, Dublin 11 will apply to the EPA for a revision of a license. It is proposed to add a new Class of Activity under the First Schedule of the Protection of the Environment Act 2003: 12.2.2 'The manufacture of coating materials in processes with a capacity to use at least 10 tonnes per year of organic solvents, not included in paragraph 12.2.1'. The Activity is located at National Grid Reference 313611 E 239999 N. A copy of the application may be obtained from the agency (Tel: 1890 93 55 99; Website: <http://www.epa.ie/>) as soon as practicable after receipt by the agency of the application.

**THE DISTRICT COURT DUBLIN METROPOLITAN DISTRICT**

**IN THE MATTER OF THE AUCTIONEERS AND HOUSE AGENTS ACTS 1947-1973 APPLICATION OF: GAIL SINCLAIR NOTICE OF APPLICATION FOR CERTIFICATE OF QUALIFICATION**

TAKE NOTICE that on the 26th day of June 2008 at 10.30am, an application will be made to the Judge sitting at District Court 22, Richmond Hospital, North Brunswick Street, Dublin 7 for the renewal of a Certificate of Qualification to hold an Auctioneer's Licence on behalf of Gail Sinclair, whose principal place of business is at Remax Partners, 2 Fairview, Dublin 3. Dated this 14th day of May 2008  
M.P. Black & Co Solicitors for the Applicant 2 Main Street Malahide, Co. Dublin

**THE DISTRICT COURT Dublin Metropolitan District**

**IN THE MATTER OF THE AUCTIONEERS AND HOUSE AGENTS ACTS 1947-1967**

TAKE NOTICE that Application on behalf of Kay Investments Limited trading as Property Team Kigallon having its registered office and its place of business at 3 Main Street, Clon-dalkin, Dublin 22 pursuant to the above Acts will be made to the Judge of the District Court sitting at Court No. 52, Old Richmond Hospital, North Brunswick Street, Dublin 7 on the 26th day of June 2008 at 10.30am for a Certificate of Qualification to hold an Auctioneers Licence.

Dated this 8th day of May 2008.

Signed:  
Patrick J. Morrissey & Co., Solicitors for the Applicant, 1a Lower George's Street, Dun Laoghaire, County Dublin.

**PLANNING APPLICATIONS**

**DUBLIN CITY COUNCIL** — M&M Heelan seek Planning Per-

**LEGAL**

**DUBLIN METROPOLITAN DISTRICT AN CHUIRT OUICHE AUCTIONEERS AND HOUSE AGENTS ACTS, 1947-1973 PART 111 NOTICE OF APPLICATION FOR CERTIFICATE OF QUALIFICATION**

Record No. 668 ORDER 63 APPLICANT: Liam Clancy

TAKE NOTICE that Liam Clancy of Capel Abbey Auctioneers Of Suite 134, The Capel Building, Mary's Abbey, Dublin 7 Pursuant to the provisions of the Auctioneers and House Agents Acts 1947 to 1973 intend to apply to the Judge of the Dublin Metropolitan District Court sitting at Court No. 52, Richmond Courts, North Brunswick Street, Dublin 7 on Thursday 26th day of June 2008 at 10.30am for the renewal of a Certificate of Qualification to hold an Auctioneers/House Agents Licence to carry on business under the name of Capel Abbey Auctioneers and having the principal place of business at Suite 134, The Capel Building, Mary's Abbey, Dublin 7 in the City of Dublin in the aforesaid District.

Dated this the 16th day of May 2008.

Signed:  
O'Connor Buckley & Co. Solicitors for the Applicant Suite 116 The Capel Building Mary's Abbey Dublin 7

**PLANNING APPLICATIONS**

**GALWAY COUNTY COUNCIL** — Sandra Brown intends to apply for Planning Permission for a development at: Gortnadeave Creggs, Co. Galway The development consists of one 146m<sup>2</sup> two storey residential house and access road. The planning application may be inspected at the offices of Galway County Council during office hours and a submission or observation in relation to the application may be made to the Authority in writing on payment of the prescribed fee.

**DUBLIN CITY COUNCIL** — Permission is sought by Peter Williams & Pamela Coyle for demolition of an existing two storey extension & erection of a new three storey extension to the rear of the existing end of terrace dwelling at 35 Ashfield Road, Ranelagh, Dublin 6. The application may be inspected or purchased at the offices of Dublin City Council and a submission or observation in relation to the application may be made to the Authority in writing on payment of the prescribed fee within the period of 5 weeks beginning on the date of receipt by the Authority of the application.

**FINGAL COUNTY COUNCIL** — Planning Permission is sought for the construction of a single family side extension: extending sitting room, utility room, kitchen with a pitched roof at 19 Dal Riada, Portmarnock, Co. Dublin by Mr & Mrs Loftus. The planning application may be inspected or purchased at a fee not exceeding the reasonable cost of making a copy at the offices of Fingal County Council during its public opening hours and a submission or observation in relation to the application may be made in writing to Fingal County Council on payment of a fee of 20 Euro within 5 weeks of receipt of the application by the Authority.

**FINGAL COUNTY COUNCIL** — I Richard Boshell hereby apply for full planning permission for the development at this site address: 50 Lanesborough Grove, Charlestown, Dublin 11. The development will consist of alternation of existing roofline and build up gable wall to facilitate new playroom/study at attic level with 2 no. Roof lights to the rear. The planning application may be inspected or purchased at a fee not exceeding the reasonable cost of making a copy at the offices of the Planning Authority during the public opening hours and a submission or observation may be made to the Authority in writing on payment of the prescribed fee (€20) within the period of 5 weeks

**PLANNING APPLICATIONS**

**WICKLOW COUNTY COUNCIL** — We, Mark & Sandra Finlay-Mulligan intend to apply for planning permission for extensions and alterations to existing house comprising two storey extension to side, single storey extension to roof and internal modifications, at 60 Heathervue, Greystones, Co Wicklow. The planning application may be inspected or purchased at the offices of the Planning Authority, County Buildings, Wicklow, during its public opening hours, for a fee not exceeding the reasonable cost of making a copy. A submission or observation in relation to the application may be made in writing to the Planning Authority on payment of the prescribed fee within the period of 5 weeks beginning on the date of receipt by the Authority of the application.

**FINGAL COUNTY COUNCIL** — Planning Permission sought by Ken Rooney for amendments to previously approved planning permission (Reg Ref: F07A/0920) to construct a single storey house, new vehicular entrance, a proprietary waste water treatment system and all ancillary site works at Courtough, Balbriggan, Co. Dublin. The amendments include a change of position of the house on the site, slight increase in floor area and minor amendments to elevations. The application may be inspected or purchased at a fee not exceeding the reasonable cost of making a copy at the offices of Fingal County Council during its public opening hours and a submission or observation may be made to the Authority in writing on payment of the prescribed fee, (€20) within the period of 5 weeks beginning on the date of receipt by the Authority of the application.

**DUBLIN CITY COUNCIL** — We, Pelco Limited, intend to apply for Planning Permission for development at this site: Texaco Merrion Gates Service Station, 290, Merrion Road, Dublin 4. The development consists of: The construction of a new single storey Store Room extension (Floor Area 96.53sq.m) to the side and rear of the existing building and all associated drainage and site works. The Planning Application may be inspected or purchased at a fee not exceeding the reasonable cost of making a copy between the hours of 9.00am-4.30p.m. at the offices of Dublin City Council, Planning Department, Block 4, Ground Floor, Dublin 8. A submission or observation in relation to the application may be made in writing to Dublin City Council on payment of a fee of €20, within the period of five weeks, beginning on the date of receipt by the Authority of the Application.

**DUBLIN CITY COUNCIL** — We, D. Kilmartin & D. Doherty intend to apply for Planning permission for development of a site: 330 Harolds Cross Road, Dublin 6w. The development will consist of: Demolition of existing single storey garage to rear and construction of detached 2 storey 2 bedroom mews dwelling with habitable attic accommodation with off street parking for 1 vehicle. First floor screened terrace garden to front (south facing). Alterations to existing vehicular access and boundary wall to main house and all associated site works. The planning application may be inspected or purchased at a fee not exceeding the reasonable cost of making a copy at the offices of Dublin City Council during its public opening hours. A submission or observation in relation to the application may be made in writing to the Planning Authority on payment of a fee of €20. Submissions must be made within 5 weeks from date application is received by the Planning Authority.

**FINGAL COUNTY COUNCIL** — I, Mr. L. McDonnell, intend to apply for planning permission for alterations to the existing light industrial premises at Unit 59B, Grange Way, Baldoy Industrial Estate, Baldoyle, Dublin 13. The development comprises alterations at ground and first floor

**PUBLIC NOTICES**



**PLANNING AND DEVELOPMENT (LICENSING OF OUTDOOR EVENTS) REGULATIONS, 2001**

Dún Laoghaire-Rathdown County Council intends making an application for a Licence to hold an event in accordance with Part XVI of the Planning and Development Act, 2000. The event will be held in Dún Laoghaire and surrounding areas, County Dublin. The event will consist of a programme of music, dance, exhibitions, cinema, workshops, craft fairs and food markets. The event will be held between the 22nd August and 24th August 2008.

Dún Laoghaire-Rathdown County Council is making the application. It is anticipated that the numbers attending the event will not exceed 8000 at any one event on any day. The application for the licence may be inspected at the Planning Office, County Hall, Marine Road, Dún Laoghaire-Rathdown County Council, Dún Laoghaire, County Dublin, during office hours from the 12th May 2008. Submissions and observations may be made to Dún Laoghaire-Rathdown County Council within a period of 5 weeks from the date of receipt of the application.

County Hall, Dún Laoghaire, Co. Dublin, Ireland  
Tel: 01 205 4700 Fax: 01 280 6969  
Web: [www.dlrco.ie](http://www.dlrco.ie)

**PLANNING APPLICATIONS**

**DUN LAOGHAIRE-RATHDOWN COUNTY COUNCIL** — I, D. Gleeson, intend to apply for permission for the following works at 13 Pembroke Cottages, Booterstown, Co. Dublin, a Protected Structure: Demolition of existing single storey extensions and shed at rear of existing cottage; construction of single storey and partial two storey extension to rear comprising kitchen/dining, living room, utility room, storage and ancillary circulation spaces at ground level, bedroom and bathroom at first floor level. The following works to the existing cottage: roof repairs; restoration of existing joinery; conversion of existing bedroom 1 and kitchen to new shower room and bedroom; window on west gable to be reduced in size; original blocked-up window open on rear wall to be converted to doorway. External works as follows: creation of split level courtyard to rear of cottage. The planning application may be inspected or purchased at the offices of the Planning Authority, County Hall, Dun Laoghaire. A submission/observation may be made on payment of €20 within a period of 5 weeks from the date the application is received by the Planning Authority.

**DUBLIN CITY COUNCIL** — Mr. Seamus Griffin intends to apply for planning permission for development of a site at 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000



**BURGESS GALVIN & CO. LTD.**

JAMESTOWN ROAD, FINGLAS, DUBLIN 11

Telephone (01) 834 2255 Fax (01) 836 1399

e-mail: [mail@burgessgalvin.ie](mailto:mail@burgessgalvin.ie)

<http://www.burgessgalvin.ie>

21 May 08

Executive Manager  
Dublin City Council  
Planning Department  
Block 4  
Floor 3  
Civic Offices  
Wood Quay  
Dublin 8

**Application to Environmental Protection Agency**  
Ref. B 8D

Dear Sir / Madam,

I wish to inform you that Burgess Galvin 7 Co. Ltd., Jamestown Road, Finglas, Dublin 11 is about to apply to the Environmental Protection Agency for a revision of the term of its license (Reg. P0075-02).

A copy of the site notice (erected on 21 May 08) and the newspaper advertisement is enclosed.

Yours sincerely,

Dr. Paddy Kane, MRSC.  
Chemist

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## **Attachment B 9 – Seveso II Regulations**

The manufacture and packing of wood preservative at this site is not an establishment to which the EC (Control of Major Accident Hazards involving Dangerous Substances) Regulations (S.I. No. 74 of 2006) apply.

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## **Attachment B 10 – IPPC Directive**

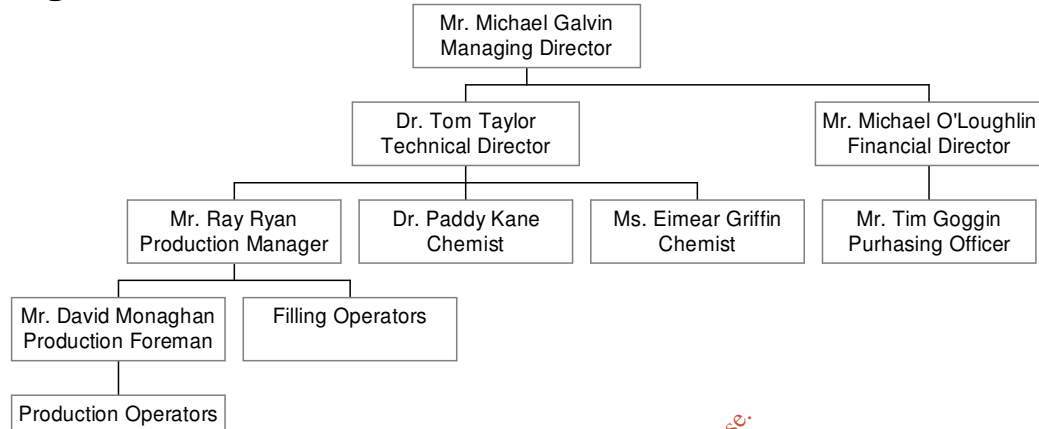
The manufacture and packing of wood preservative at this site is not a category of industrial activity referred to in Annex I of the IPPC Directive (96/61/EC).

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# Attachment C – Management of The Installation

## Site Management & Control

### Organisational Chart



### Relevant Environmental Management Policy Statements

A statement of the environmental management policy of Burgess Galvin & Co. Ltd. follows is included as part of this application (Attachment C 1A).

### Provisions for on-going Assessment of Environmental Performance

Effluent discharged to the sewer, controlled by Dublin City Council is sampled and submitted bimonthly for analysis by an external, independent service. The parameters tested are defined by the current IPPC license (Reg. P0075-2).

However, as stated elsewhere in this application, the manufacture and packing of wood preservative at Burgess Galvin & Co. Ltd. does not result in discharges of raw materials or product to the sewer.

Effluent gases are analysed by an external, independent body on a yearly basis.

These results are analysed and appropriate action is taken to achieve compliance with the IPPC license and relevant regulations.

### Environmental Management System (EMS)

An environmental Management System has not been developed for the installation.

## Hours of Operation

*(a) Proposed hours of operation*

Monday – Thursday, 8:30 – 17:00

Friday, 8:00 – 14:45

*(b) Proposed hours of construction and development works and timeframes*

The only new equipment required for the new activity are three 20-tonne storage tanks (for the water based wood preservatives) and a new bund.

There will be no other construction and development work needed.

*(c) Any other relevant hours of operation expected*

If overtime were required due to seasonal demand, it would require up to 3 hours after normal closing time.

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### Environmental Policy Statement

It is the policy of Burgess Galvin & Co. Ltd. to work with the Environmental Protection Agency (EPA) to monitor the necessary parameters as required by our Integrated Pollution Prevention Licence and take the necessary action(s); to review our environmental management procedures and update them where appropriate; and where possible, to improve the execution of these procedures beyond the standards required by the licence.

Burgess Galvin & Co. Ltd. shall endeavour to: (1) minimise packaging waste; (2) reduce energy usage; (3) move to more environmentally friendly packaging when the opportunity arises; and (4) to act responsibly towards the environment in relation to manufacturing procedures, product formulation and waste disposal.

Signed: \_\_\_\_\_ Director Date: \_\_\_\_\_

EPS 1: Revision 01 Issued by: \_\_\_\_\_

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## Attachment D – Infrastructure and Operations

This document describes the plant, methods, processes, ancillary processes, abatement, recovery and treatment systems, and operating procedures for the relevant activities.

### History of Site, Description of Facilities

Burgess Galvin & Co. Ltd. has been manufacturing detergents since 1948 and has been operating from its present location in Finglas since 1971. Batch mixing is the method of manufacture. Detergents represent 80% of the company's turnover. The company also manufacture adhesives and as a result, it holds an Integrated Pollution Prevention and Control (IPPC) license (Reg. P0075-2).

Since the IPPC license was awarded, the company's production facilities have been upgraded to include load cells and indicators. This means that the correct amounts of the different raw materials can be added to batches efficiently with minimum waste.

In 2006, the terms of the company's IPPC license was amended after the Environmental Protection Agency determined that the license can be brought into conformity with the provisions and requirements of the Council Directive 96/61/EC by the exercise of the powers conferred by Section 82 (11) of the Environmental Protection Agency Act of 1992 and The Protection of the Environment Act 2003.

In 2007, Burgess Galvin & Co. Ltd. won a contract from Protim Abrasives Ltd. to manufacture and pack organic solvent- and water-based wood preservatives. There were a number of factors that made Burgess Galvin & Co. Ltd a very suitable choice. The single-vessel methods involved, the ease with which the raw materials blend and the fact that the blending does not generate waste all meant that activities could be transferred from Protim's site to the Burgess Galvin site in Finglas with minimum impact on the environment.

### Location of Activities

The two types of wood preservative — organic solvent-based and water-based — are made in different locations on the site. The kerosene-based products are produced in portable, reusable containers. The water-based products are produced and stored in bulk tanks. The locations of these bulk tanks are specified in Figure 1.

## **Manufacturing Procedures**

### ***Solvent-based Wood Preservatives***

#### **Protim Universal (Code F 2000)**

**Batch size:** 1000 litres.

Odourless kerosene (98 – 99% by weight) is mixed with a fungicide and warmed to 30 C. This premix is added to the main bulk of the odourless kerosene, along with a surfactant and another fungicide. The materials are batch blended in reusable containers. Any residue remaining in these containers (after the product has been removed for packing) is re-blended with the raw materials used in making the next batch

**Pack sizes:** 1, 2.5, 5 and 25 litres.

#### **Protim Brown (Code F 2001)**

**Batch size:** 1000 litres (800 kg).

Brown dye is added to colourless form of the kerosene-based wood preservative.

**Pack sizes:** 1, 2.5, 5 and 25 litres.

#### **Protim Green (Code F 1973)**

**Batch size:** 1000 litres (800 kg).

The materials described above for the colourless variant of this product are also used to make the green version. The method of manufacture differs in that a premix is used to introduce the green pigment with aid of a surfactant. The composition of the product is still very similar to the colourless form with kerosene (98 – 99% by weight).

**Pack sizes:** 1, 2.5, 5 and 25 litres.

## **Water-based Wood Preservatives**

### **E 415 (Code F 1405/14)**

**Batch size:** 20 tonnes

A premix of pine oil, fungicides and surfactants is prepared in a dedicated container, which is never washed out. This premix is then added to water (93%) and a corrosion inhibitor. The batch is circulated for 4 hours.

**Note:** Protim Abrasives Ltd. have introduced a second water-based product (E 406, see below) in 2008. This product has a lower level of fungicide, and they anticipate that it will replace the E 415 product by least 50%.

**Pack size:** Road tanker.

### **E 406 (Code F 1962)**

Batch size: 20 tonnes.

Water (ca. 95%) and a C10-16 alkyldimethyl amine are mixed with a high-shear Silverson mixer. Benzoic acid is added and the solution is mixed for 1 hour. A premix of pine oil, fungicides, a corrosion inhibitor and a surfactant is also prepared in a dedicated container, which is never washed out. The benzoic acid solution and the oil premix are added and the components are mixed for 4 hours.

**Pack size:** Road tanker.

### **Brooks (Code F 2029)**

**Batch size:** 4.8 tonnes

Two fungicidal agents are heated and added to pine oil and mixed with a high-shear mixer for 20 minutes. This premix is added along with surfactants to a corrosion inhibitor to give a second premix, which is added to water in a detergent vat, D3 or D4 (see Figure 2) and mixed for 15 minutes. An anti-foaming agent is added and mixed for a further 45 minutes.

Brown dye or green pigment dyes are added to produce two further variants of the product.

Brooks Brown (Code F 2030)

Brooks Green (Code F 2031)

**Pack size:** 5 litres.

### **AQ 250 (Code F 1764/4)**

**Batch size:** 800 kg

Two fungicidal agents are added to pine oil and mixed at a high-shear rate for 20 minutes. Water (74%), surfactants and a corrosion inhibitor are mixed for 20 minutes in another vessel. The fungicide–pine oil premix is then added and mixed at a high-shear rate for 20 minutes. An anti-foaming agent is added and the batch is mixed for a further 45 minutes.

**Pack size:** 5 litres.

### **Wall Solution 250 (Code F 1679/1)**

**Batch size:** 1 tonne

A fungicide is mixed with two surfactants for 20 minutes. Water is added and the batch is mixed for a further 20 minutes.

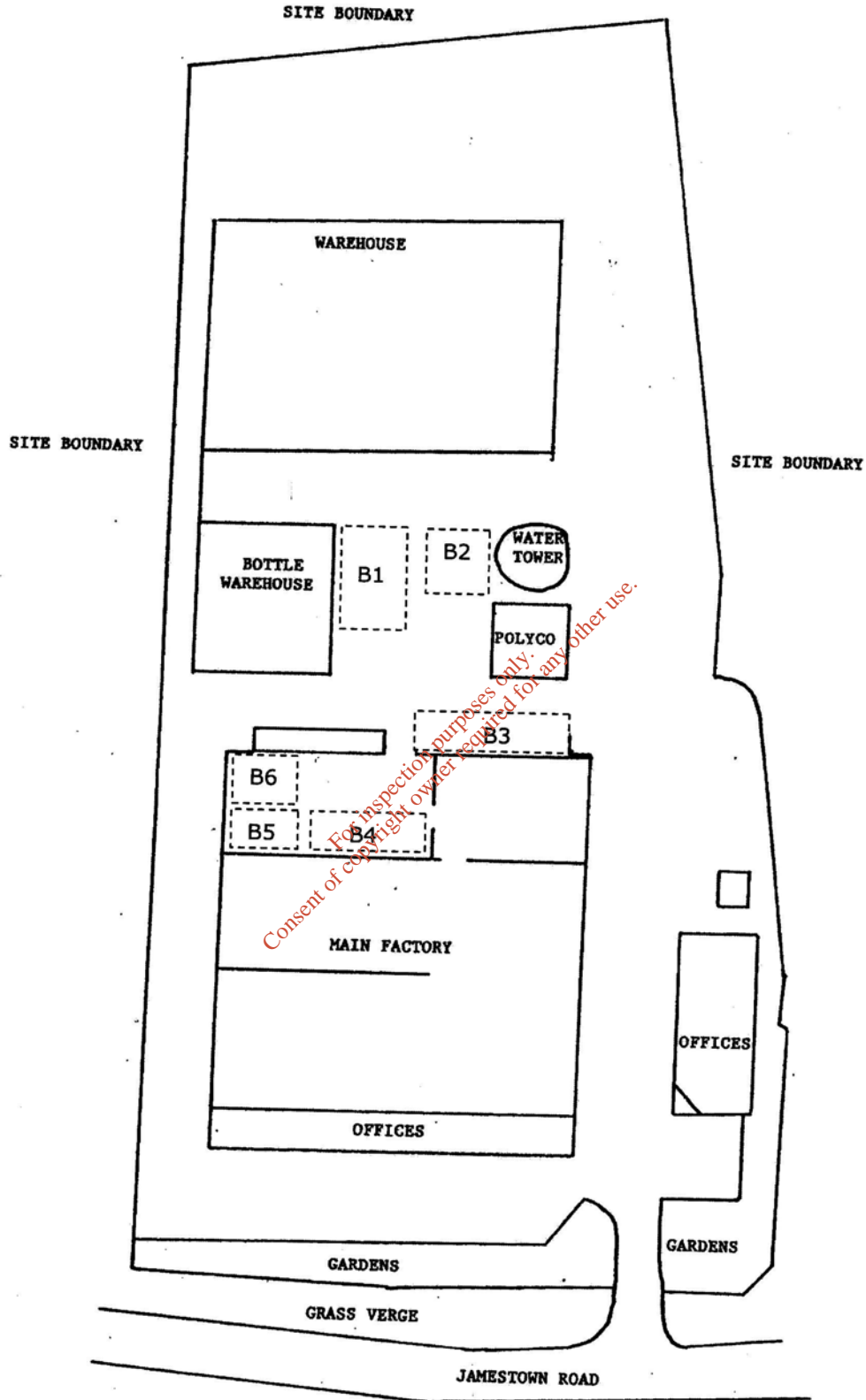
**Pack size:** 5 litres.

### **Product Verification**

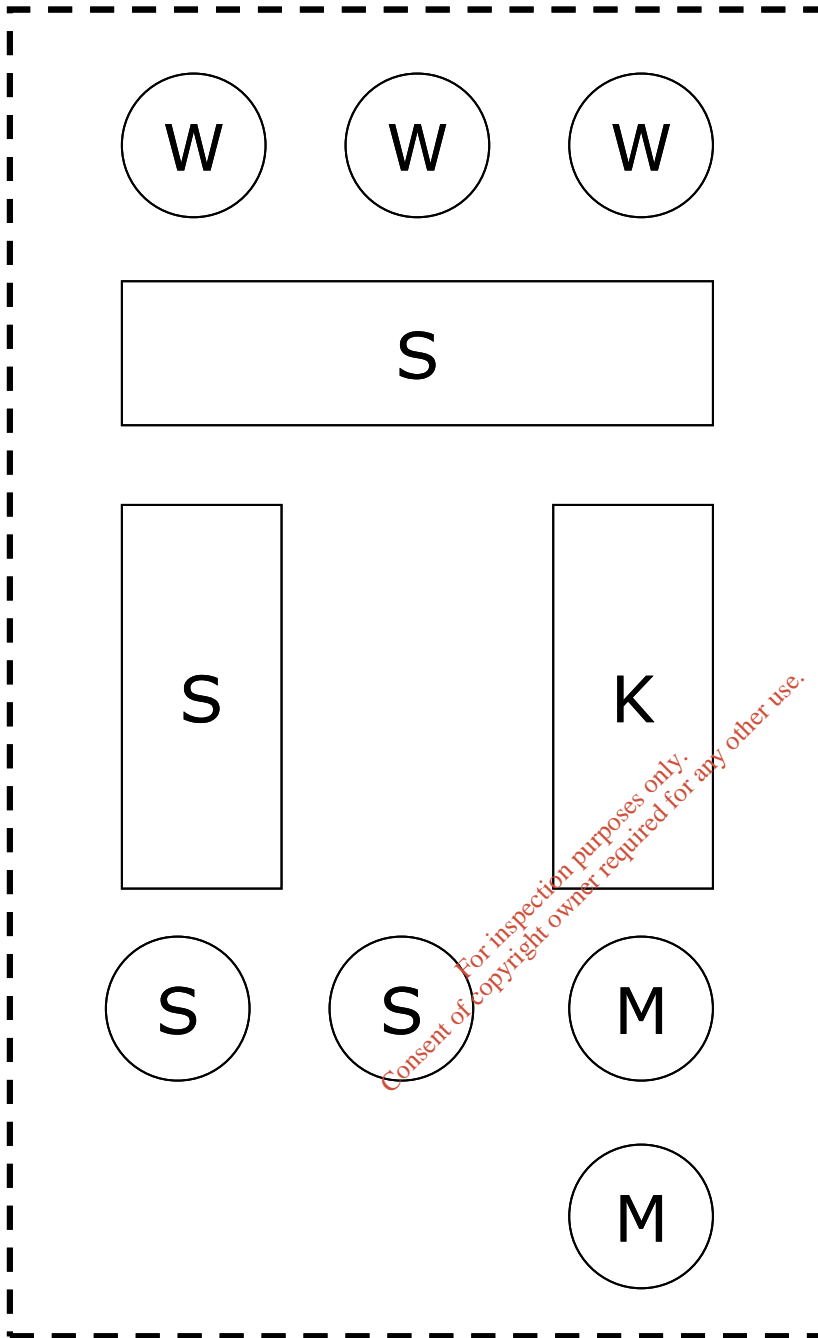
When requested by Protim Abrasives Ltd. samples of product are submitted to a laboratory under the control of Protim Abrasives Ltd. for quantitative analysis.

### **Abatement, Recovery and Treatment Systems**

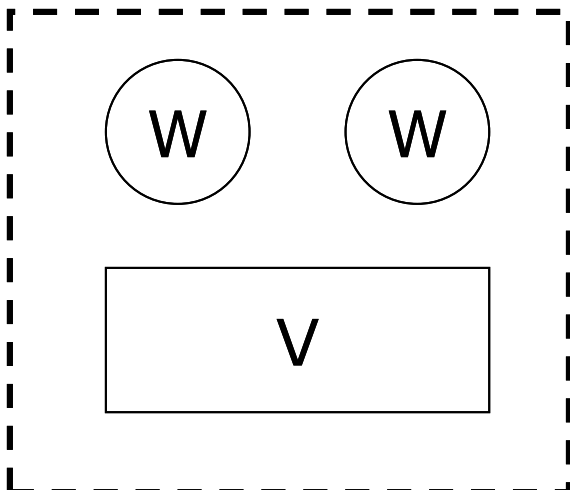
No waste raw material or product is generated in manufacturing wood preservative at this site. Therefore, no abatement, recovery or treatment systems are required.



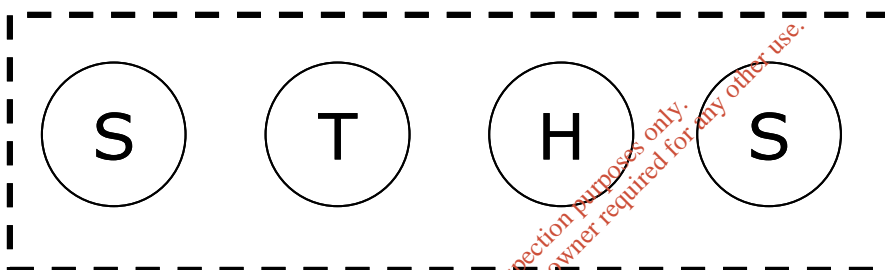
**Figure 1a.** Site plan showing the locations (marked with broken rectangles) of bulk storage / processing tanks on the site. Areas **B1**, **B2** and **B3** are located in the open-air sections of the site. Areas **B4**, **B5** and **B6** are located in an internal area.



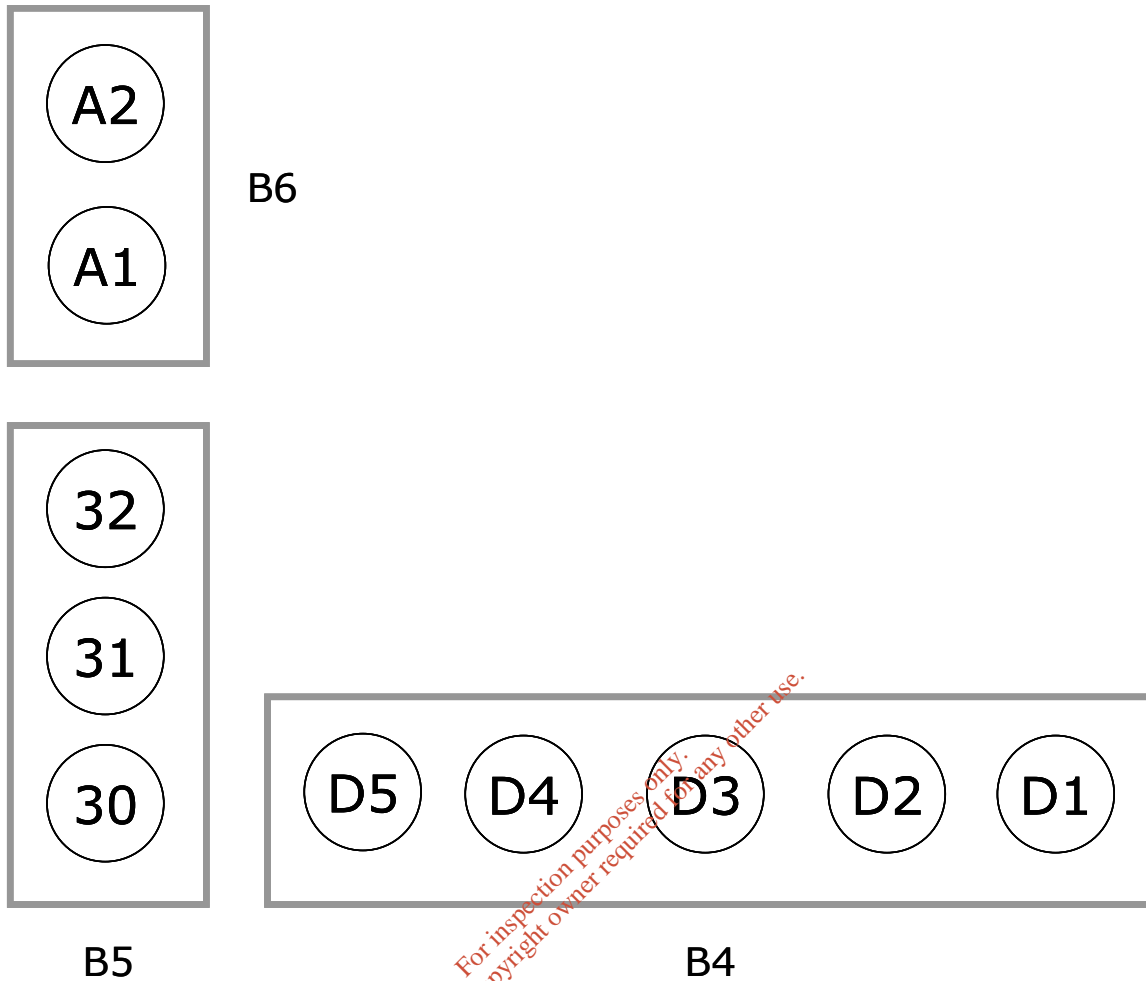
**Figure 1b.** Identification and configuration of bulk storage / processing tanks in the area **B1** referred to in Figure 1. **W**, water-based wood preservative; **S**, surfactant; **K**, odourless kerosene; **M**, baby white mineral oil. The broken rectangle represents the surrounding bund wall. The materials in the tanks marked **S** and **M** are not used to process wood preservatives. The surfactants used to manufacture detergents that are stored in bulk on the site are lauramidopropyl betaine, sodium alkyl ether sulfate C12-14 (aq., 28%), sodium alkyl ether sulfate C10-16 (aq., 70%), sodium xylene sulphate and sulphonic acid. Any one of the tanks marked **S** are suitable for storing these surfactants.



**Figure 1c.** Identification and configuration of bulk storage / processing tanks in the area **B2** referred to in Figure 1. **W**, water-based wood preservative; **V**, vinyl acetate monomer. The broken rectangle represents the surrounding bund wall. The material in the tank marked **V** is not used to process wood preservatives.



**Figure 1d.** Identification and configuration of bulk storage / processing tanks in the area **B3** referred to in Figure 1. **S**, surfactant; **T**, sodium hypochlorite (thickened, aq., 4.5%); **H**, sodium hypochlorite (aq., 15%). The broken rectangle represents the surrounding bund wall. The material in the tanks marked **S**, **T** and **H** are not used to process wood preservatives. The surfactants used to manufacture detergents that are stored in bulk on the site are lauramidopropyl betaine, sodium alkyl ether sulfate C12-14 (aq., 28%), sodium alkyl ether sulfate C10-16 (aq., 70%), sodium xylene sulphonate and sulphonic acid. Any one of the tanks marked **S** are suitable for storing these surfactants.



**Figure 2.** Identification and configuration of bulk tanks for processing detergents (area **B4**), storing detergents (area **B5**) before transfer to the filling floor and processing adhesives (area **B6**). The locations of these areas on the site are identified in Figure 1. The grey rectangles do not represent physical boundaries. Instead, they are included to assist in distinguishing the different types of vessels from each other.

# **Attachment E 1A – Summary of Atmospheric Emission Points**

## **Description of Atmospheric Emissions**

Emissions from the site occur as result of operation of the heater on the filling floor, the boiler in the manufacturing area and the boiler in the meeting room of the offices.

The manufacture of wood preservative on the site results in fugitive emissions resulting from the refilling of the kerosene bulk storage tank. These emissions are examined in **Attachment E 1B**.

## **Locations of Atmospheric Emission Points**

Figure 1 shows the locations of flues from heaters / boilers.

## **Monitoring of Atmospheric Emissions**

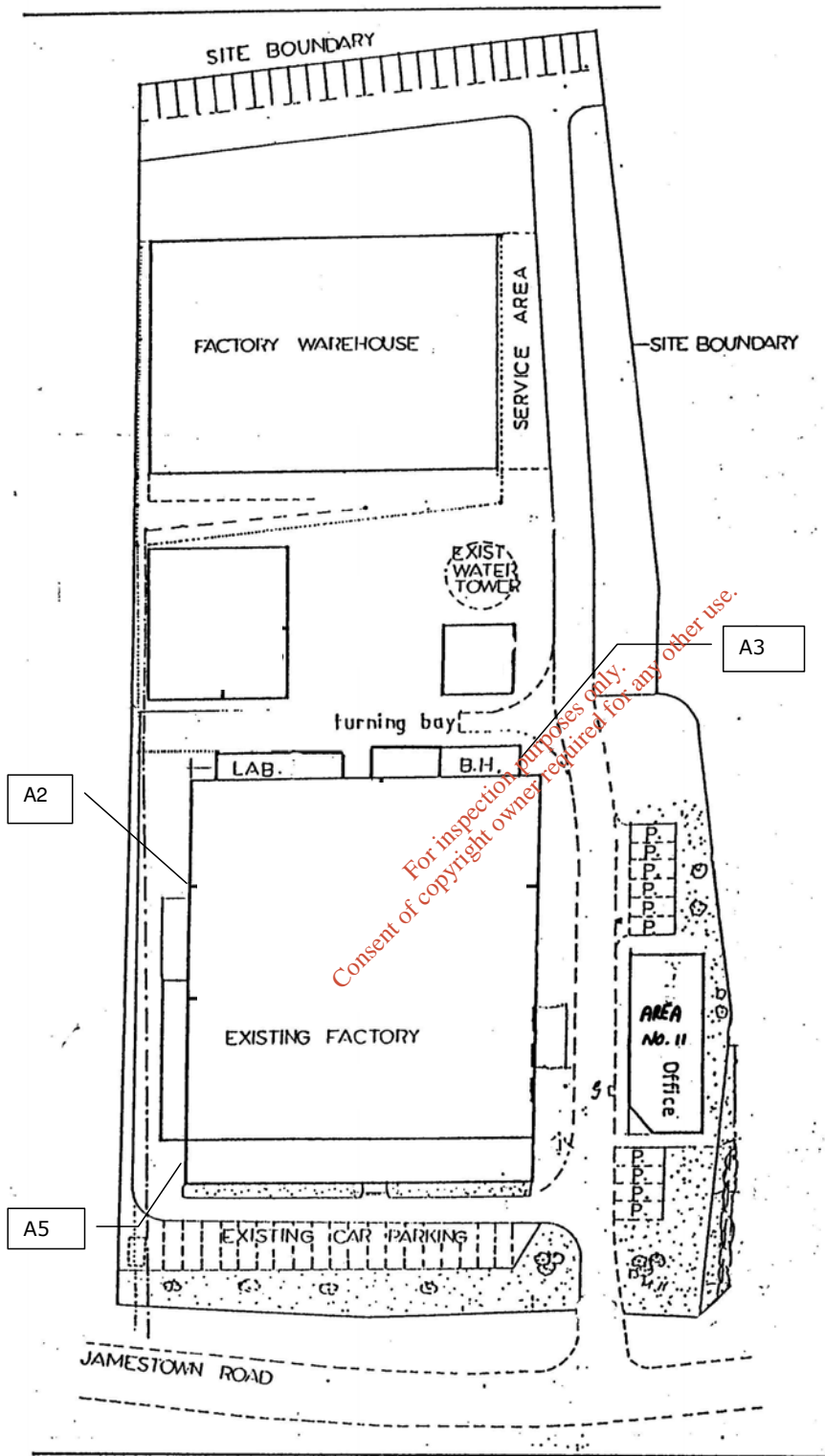
In accordance with conditions of the current license (Reg. P0075-02), emissions to the atmosphere from the site were analysed in November 2007 and the report generated is included as part of this application (**Attachment I 1A**).

## **Abatement Systems for Atmospheric Emissions**

Atmospheric emissions from the site are not treated before entering the atmosphere.

## **Compliance with Schedule of S.I. 394 of 2004**

None of the substances listed in the Schedule of S.I. 394 of 2004 are emitted from the site.



**Figure 1.** Map of site showing locations of flues from heaters / boilers. Factory Roof Height: Apex 25 ft (7.6 m); Eve 15 ft (4.6 m). A2, Heater, filling floor; A3, Boiler, Manufacturing; A5, Boiler, Meeting Room, Offices.

## Attachment E 1B – Fugitive Emissions

In relation to activities listed in the Schedule of Council Directive 1999/13/EC on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain activities and installations, the relevant category of activity in the Schedule is

Manufacturing of coating preparations, varnishes, inks and adhesives

### Evaluation of Potential for Fugitive Emissions

(a) *Leaks from Valve Seals and Flanges*

- (i) **Bulk Storage Tanks:** Leaks of liquids from bulk storage tanks would be contained with the bund wall. If it is found to be contaminated, it would be disposed of as described in the material and safety data sheet.
- (ii) **Production Vessels:** Leaks of liquids from production vessels would be controlled by use of adsorbent material and disposed of as described in the material and safety data sheet. In the case of a small leak, it may be released to foul but this will depend on the nature of the material and the instructions given in the material and safety data sheet.
- (iii) **Drum Leaks:** Leaks of liquids from drums would be controlled by use of adsorbent material and disposed of as described in the material and safety data sheet.
- (iv) **Spillage of Powdered Material:** Spillage of powdered material would be handled according to instructions described in the material and safety data sheet.

(b) *Losses of Liquid from Storage and Processing Facilities*

Fugitive emissions arise from the addition of kerosene to its storage tank and these emissions are estimated later in this document.

Fugitive emissions arising from additions of materials to batches are negligible.

(c) *Dust Emissions arising from the Storage of Solids in the Open Air*

The solids on the site used to manufacture wood preservative are granular and, therefore, any dust arising from use of the solids is negligible.

(d) *Emissions arising from Loading and Unloading Operations*

As for (a) (ii) above.

(e) *Emissions arising from Cleaning Operations*

As stated elsewhere in this application, the production vessels used to manufacture wood preservative do not need to be cleaned. The vessels used are dedicated and residue remaining in a vessel from the production of a given batch is used to produce the next batch of that product.

(f) *Emissions arising from Waste Water Treatment*

There are no emissions arising from waste water treatment on the site.

## Estimation of Fugitive Emissions

As mentioned above, fugitive emissions associated with the activity of manufacturing and packing of wood preservative on the site occur as a result of the displacement of kerosene vapour upon refilling of the bulk storage tank.

Fugitive emission of kerosene vapour is calculated as follows:

Kerosene has a vapour pressure of 1 torr or  $133.3 \text{ N m}^{-2}$ . Assuming ideal gas behaviour and using a relative molecular mass of  $0.185 \text{ kg mol}^{-1}$ , the concentration of kerosene in the atmosphere at an ambient temperature of  $15 \text{ C}$  (or  $288 \text{ K}$ ) at the result of the refilling,

$$\begin{aligned} &= \frac{133.3 \times 0.185}{8.314 \times 288} \\ &= 0.010 \text{ kg m}^{-3}. \end{aligned}$$

Annual usage of kerosene is 310 tonnes, and the estimate of the amount of kerosene released annually,

$$\begin{aligned} &= 310 \times 0.010 \times \frac{1}{1000} \\ &= 0.0032 \text{ t} \end{aligned}$$

## Compliance with Statutory Requirements in Relation to Fugitive Emissions

Annex IIA of Council Directive 1999/13/EC states that for the activity of manufacturing of coating preparations, varnishes, inks and adhesives, the total emission limit is 5% of solvent input where solvent consumption is 100 – 1000 per year, as is the case with this site.

Annual usage of kerosene is 310 tonnes. Therefore, the amount of kerosene released annually, expressed as a percentage of annual usage is 0.0010%. In conclusion, the activity of manufacturing and packing of wood preservative on this site meets the statutory requirements for fugitive emissions of volatile organic compounds.

## **Attachment E 2 – Emissions to Surface Waters**

### **Receiving Water**

Rainwater from the site is discharged, via a drain, to the surface water outfall, controlled by Dublin City Council and is eventually discharged to the Tolka River. See Figure 1.

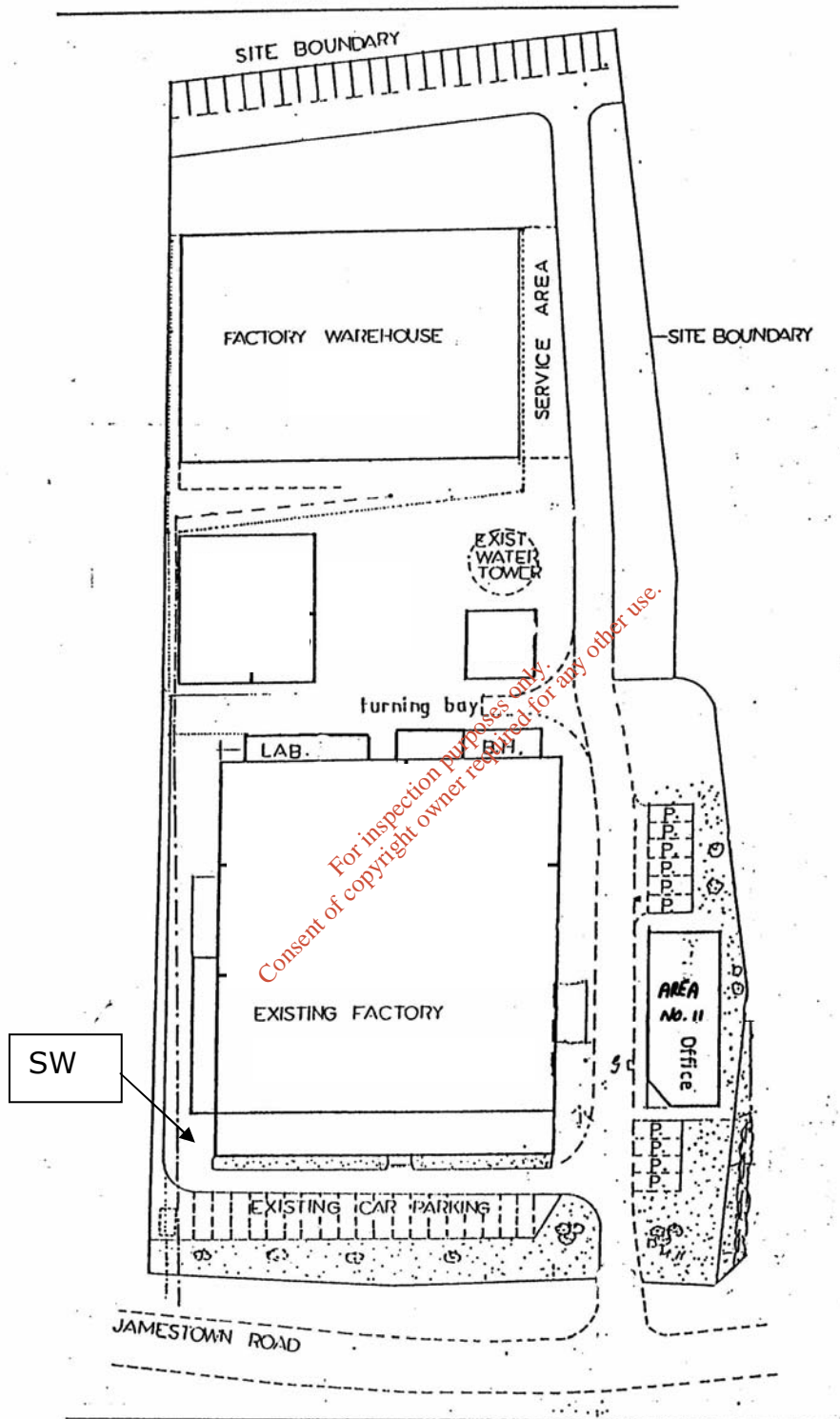
### **Compliance with Terms of Current Licence**

Emissions to surface waters at this site are regulated under the conditions of the current licence (IPPC Reg. P0075-2).

### **Compliance with EU Directive 76/464/EEC**

None of the substances specified in List I and List II in the Annex to EU Directive 76/464/EEC (as amended) / Schedule of S.I. No. 394 of 2004, are contained in emissions to surface waters on this site.

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**Figure 1.** Map of site showing surface water drain, which is also the sample collection point (SW). Grid reference (6E, 6N): 313668 239934

## Attachment E 3 – Emissions to The Sewer

### Compliance with EU Directive 76/464/EEC

None of the substances specified in List I and List II in the Annex to EU Directive 76/464/EEC (as amended), are contained in emissions to the sewer on this site.

### Monitoring and Treatment of Discharges to the Sewer

The manufacture of wood preservative at this site does not result in any intentional additions to the effluent discharged to the sewer.

The effluent discharged to the sewer results from the manufacture of detergents. If necessary, the effluent is treated with hydrochloric acid to adjust the pH before discharge. A license to discharge trade effluent to sewer is included as part of this application (**Attachment E 3A**).

These discharges are regulated under the conditions of the current licence (IPPC Reg. P0075-2).

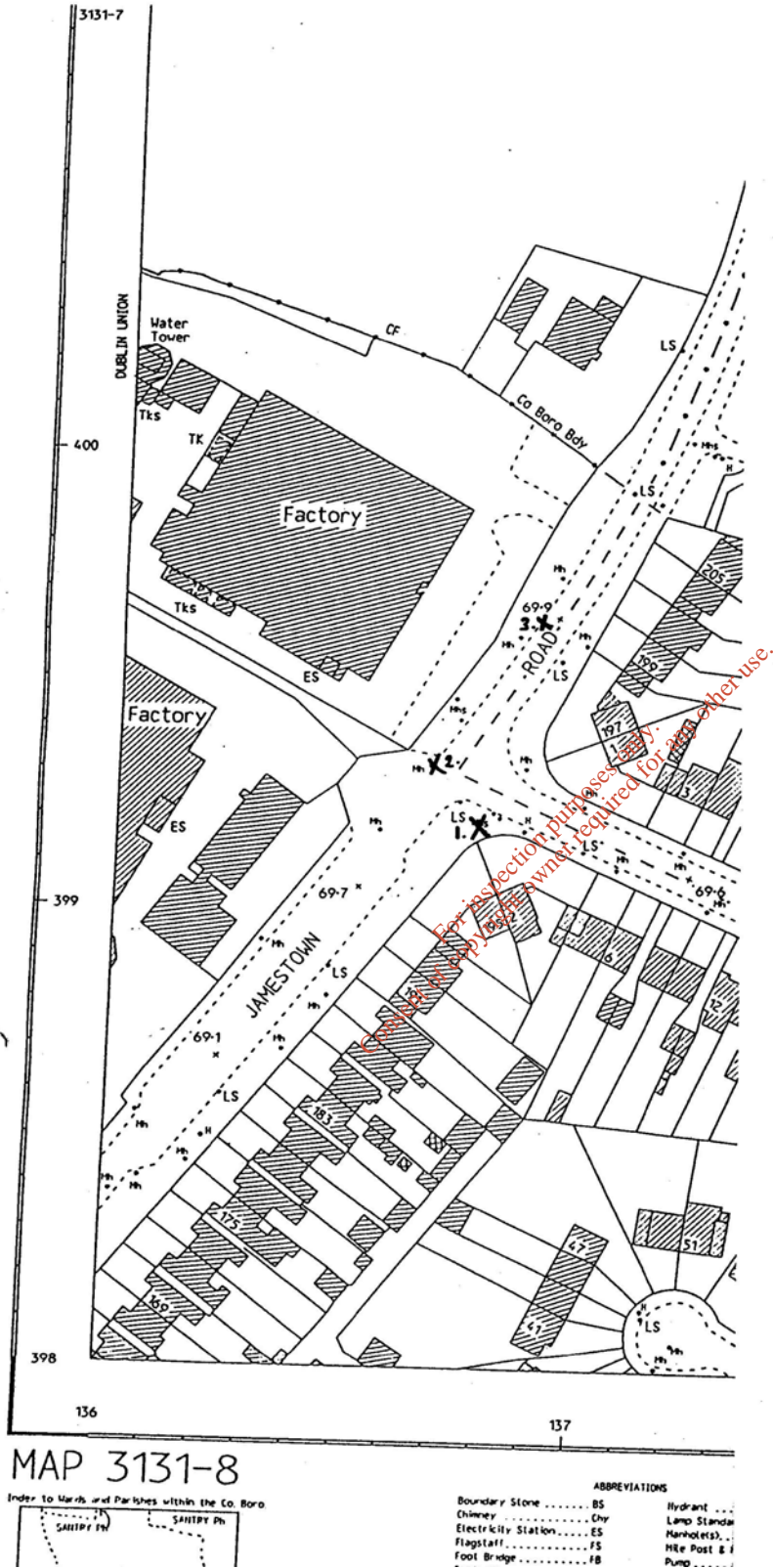
The effluent is regularly tested by an external, ILAB-accredited laboratory to determine that it conforms to the terms of the IPPC license for each of the parameters tested.

### Drainage Plan

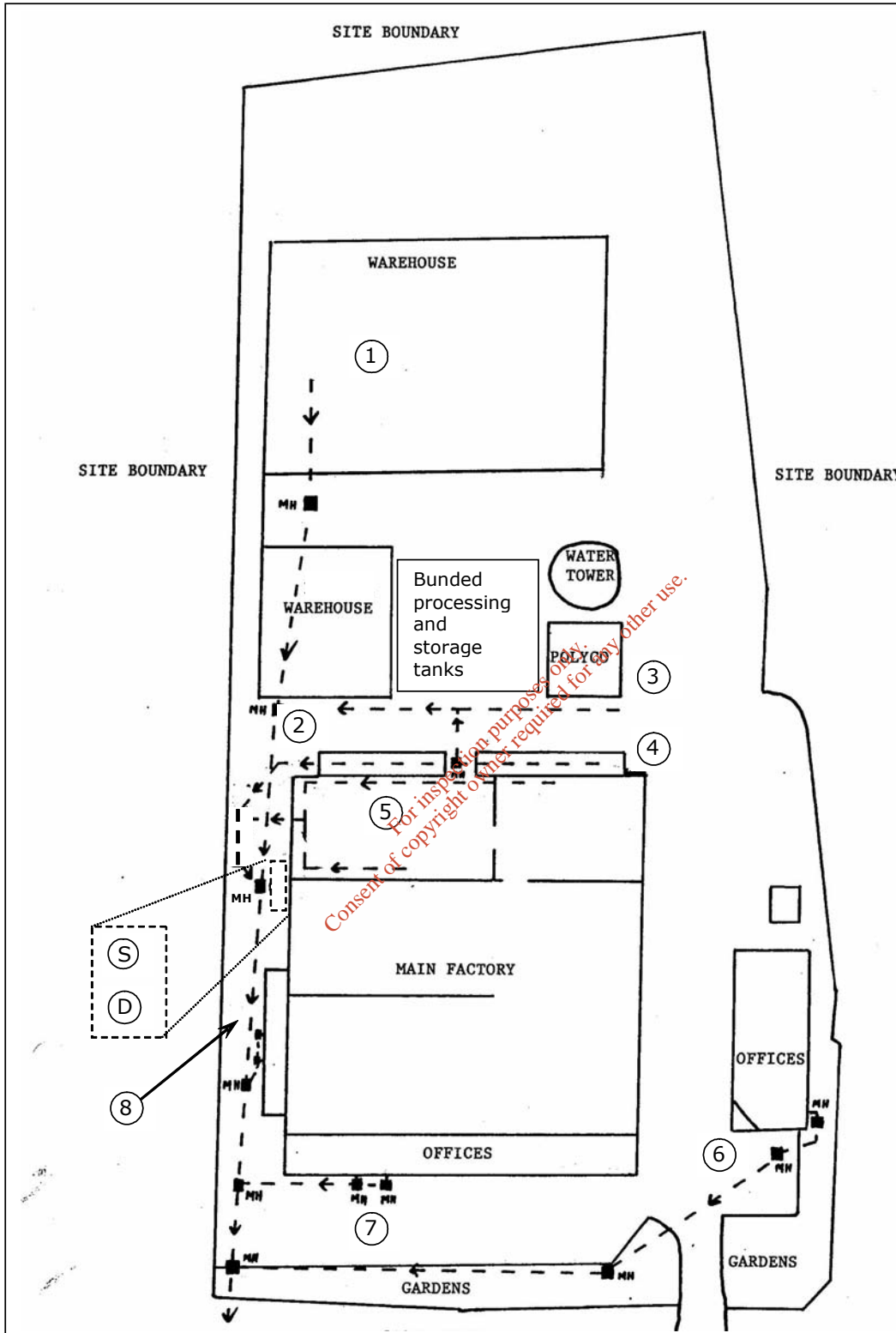
The sewer outfall from the site to the main sewer controlled by Dublin City Council is shown in Figure 1. The foul drain plan is shown in Figure 2.

The following describes the areas of the foul drain plan

- Area 1** Warehouse currently leased out (to Sazar Plus). It contains one foul drain for floor washings.
- Area 2** This area takes the wash down from the yard area and also has connections from Areas 3 and 4.
- Area 3** This area takes washings from emulsion production plant.
- Area 4** This area receives the condensate from the boiler house blowdown.
- Area 5** Detergent and adhesive production area. Washdown from the floor and the processing vats are transferred to a settlement tank, from where they overflow to a discharge tank.
- Area 6** Outfall from the toilets in the section of site that is currently leased out to Johnson Diversey Ltd.
- Area 7** Outfall from the toilets in the office area.
- Area 8** Outfall from the toilets in the manufacturing area.

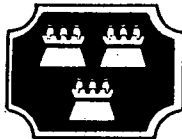


**Figure 1.** Map show location of outfalls controlled by Dublin City Council. Grid references (6E, 6N): 1, Foul Sewer 313677 239922; 2 Surface water 313668 239934; 3, Surface water 313693 239962.



**Figure 2.** Map of site showing the foul drain plan and the direction of flow of the sewage from the site. The effluent settlement tank (labelled S) and the effluent discharge tank (labelled D) and the surrounding bund are shown in an expanded view connected to their actual location. Manholes are labelled MH. The labels 1 – 8 identify the locations of the outfalls and are discussed on page 1 of this attachment.

T96,154



# Dublin Corporation Bárdas Átha Cliath

LOCAL GOVERNMENT (WATER POLLUTION) ACT, 1977

LICENCE TO DISCHARGE TRADE EFFLUENT OR OTHER  
MATTER TO A SEWER

SANITARY AUTHORITY: DUBLIN CORPORATION

REGISTER REFERENCE: LDS 14 - 89

ORDER NO.

M.D.D. REFERENCE: SSS 65 - 79

To: Burgess, Galvin & Co. Ltd.,  
Jamestown Road,  
Finglas,  
Dublin 11.

Dublin Corporation, in exercise of the powers conferred on it by the Local Government (Water Pollution) Act, 1977, hereby grants, subject to the conditions stated overleaf, a revised licence in substitution for the licence dated 20.7.1984, Reference No. LDS 11 - 84, to discharge trade effluent from the undermentioned premises to the sewer detailed below.

For use by the premises only.  
Consent of copyright owner required for any other use.

Premises: Burgess, Galvin & Co. Ltd.

Location of Factory/Works Etc.: Jamestown Road, Finglas, Dublin 11.

Sewer Location/Description of the Receiving Foul Sewer: Foul Sewer in Jamestown Road/Oakwood Road junction.

Subject to the Conditions stated overleaf.

Dated this 13<sup>th</sup> day of June 1988

Act. ASSISTANT CITY & COUNTY MANAGER

ORDER NO. \_\_\_\_\_

REGISTER REFERENCE \_\_\_\_\_

LDS 14 - 89

## CONDITIONS FOR THE DISCHARGE OF TRADE EFFLUENT

### GENERAL

1. The trade effluent discharged shall be of the same nature and composition as described and conditioned in this licence.
2. No substance shall be present in the effluent in such concentration as would constitute a danger to personnel working in the sewer or to the sewer fabric or would interfere with the operation of downstream wastewater treatment works.
3. The Licensee shall monitor the discharge of trade effluent to ensure that the conditions of this licence are complied with.
4. Representative samples of the trade effluent shall be taken by the Licensee and tested for the chemical characteristics conditioned in this licence. The frequency of sampling shall be as necessary but shall not be less than four times a year. The costs of all such tests shall be borne by the Licensee.
5. The Licensee shall keep records in such form as required, of the volume, rate of discharge, nature and composition of the trade effluent discharged into the sewer and these shall be available at all reasonable times for inspection by duly authorised persons. Copies of such records shall be sent to Dublin Corporation on demand.
6. Where settling or treatment tanks are mandatory, a record or log-book of cleaning, maintenance and performance of each settling tank shall be kept and made available for inspection at all times by officials of Dublin Corporation.
7. In the event of an accidental discharge, spillage or deposit of any polluting matter which enters or is likely to enter any waters or a sewer, the person responsible shall notify Dublin Corporation, as soon as practicable after the occurrence (Section 14, Local Government (Water Pollution) Act, 1977).
8. The Licensee shall provide and maintain an inspection chamber or manhole in a suitable position in connection with each pipe through which the trade effluent is being discharged. Each such inspection chamber or manhole shall be so constructed and maintained by the Licensee as to permit the taking of samples of the discharge.
9. The Licensee shall permit authorised persons to inspect, examine and test at all reasonable times, any works and apparatus installed in connection with the trade effluent and to take samples of the trade effluent.

Dated this 29<sup>th</sup> day of May 19 89

NA. Jomany  
Deputy Chief Engineer  
Engineering Services

**CONDITIONS FOR THE DISCHARGE OF TRADE EFFLUENT**

**GENERAL (Continued)**

- 10. On premises where exterior storage tanks of fuel and/or chemicals are situated; the following shall apply.

The tanks shall be contained within a bund structure. The bund shall be impermeable and shall have a capacity equivalent to 110% of the volume of the largest tank in the bund. The intake and outlet valves of the tanks shall be located inside the bund. The bund shall not be connected directly to any drain.

**VOLUMETRIC**

- 1. Maximum discharge per day shall not exceed 25.0 m<sup>3</sup>
- 2. Maximum discharge per hour shall not exceed 5.0 m<sup>3</sup>
- 3. The Licensee shall install and maintain a flow measuring device which shall record the instantaneous rate of discharge and the total volume of trade effluent discharged.

Dated this 29th day of May 19 89

NU. Jomany

Deputy Chief Engineer  
Engineering Services

**CONDITIONS FOR THE DISCHARGE OF TRADE EFFLUENT****CHEMICAL**

1. The temperature of the trade effluent shall not exceed 42°C.
2. The pH shall lie in the range 6.0 to 10.0.
3. Over any 24 hour period, the mean concentration of biochemical oxygen demand (B O D) in the trade effluent shall not exceed 500 mg/l. The total quantity of biochemical oxygen demand discharged in this period shall not exceed 12.5 kg.
4. Over any 24 hour period, the mean concentration of chemical oxygen demand (C O D) in the trade effluent shall not exceed 1000 mg/l. The total quantity of chemical oxygen demand discharged in this period shall not exceed 25 kg.
5. Over any 24 hour period, the mean concentration of suspended solids in the trade effluent shall not exceed 500 mg/l. The total quantity of suspended solids discharged in this period shall not exceed 12.5 kg.

Dated this 29<sup>th</sup> day of May 19 89

NA. Iomany

Deputy Chief Engineer  
Engineering Services

**CONDITIONS FOR THE DISCHARGE OF TRADE EFFLUENT****CHEMICAL**

6. The concentration of extractable oils, grease and fats in the trade effluent shall not exceed 200 mg/1. The total quantity of extractable oils, grease and fats discharged per day shall not exceed 5 kg.
7. The concentration of detergents as Methylene Blue Active Substances (M B A S) shall not exceed 100 mg/1. The total quantity of detergents discharged per day shall not exceed 2.5 kg.
8. The concentration of sulphates (as  $\text{SO}_4$ ) in the trade effluent shall not exceed 600 mg/1 and the total quantity of sulphates (as  $\text{SO}_4$ ) discharged per day shall not exceed 15 kg.
9. The concentration of phosphates (as  $\text{PO}_4$ ) in the trade effluent shall not exceed 100 mg/1 and the total quantity of phosphates (as  $\text{PO}_4$ ) discharged per day shall not exceed 2.5 kg.
10. The effluent discharge shall not contain petroleum spirits or organic solvents and shall not give rise to flammable or explosive vapours in the sewer.
11. The effluent shall be screened prior to discharge to the sewer to remove gross solids which may give rise to blockage in the sewer.

Dated this 29th day of May 19 89

N.A. Jomany

Deputy Chief Engineer  
Engineering Services

ORDER NO. \_\_\_\_\_

REGISTER REFERENCE

LDS 14 - 89

## CONDITIONS FOR THE DISCHARGE OF TRADE EFFLUENT

### CHARGES

In compliance with the Local Government (Water Pollution) Act, 1977, Section 16: 4(b) and Section 19: 2 (e), the following charges are levied:-

1- The Licensee shall pay to Dublin Corporation 5.49 p per cubic metre of effluent discharged such sum as may be determined from time to time by the Corporation, having regard to variations in the cost of providing drainage.

2. The Licensee shall pay an annual charge to Dublin Corporation towards the cost of monitoring the trade effluent. At present the fee is IR£ 250.00 per annum and will be revised from time to time by Dublin Corporation.

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Dated this 29th day of May 19 89

VA. Jomany

Deputy Chief Engineer  
Engineering Services.

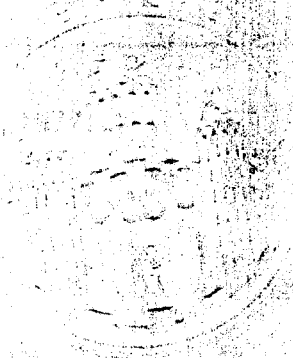
Enquiries in connection with this licence should be made to:

Principal Officer,  
Engineering Department,  
Civic Offices,  
Fishamble Street,  
Dublin 8.

Present when the Corporate Seal  
of the Corporation was affixed here to.  
The Right Honourable THE LORD MAYOR  
also being present.



City Hall, Dublin  
Corporation Official



CITY MANAGER & TOWN CLERK

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## **Attachment E 4 – Emissions to Ground and Ground Waters**

### **Receiving Water**

There are no emissions to ground as a result of any activities on the site.

Emissions to groundwaters occur as result of the discharge of rainwater, which enters the surface water outfall, controlled by Dublin City Council. These emissions are regulated under the conditions of the current licence (IPPC Reg. 0075-2).

### **Compliance with EC Directive 80/68/EEC**

The manufacture and packing of wood preservative at Burgess Galvin & Co. Ltd. involves the use of some substances that come under the scope of EC Directive 80/68/EEC. However, these substances [detailed in Tables G.1(i) and G.1(ii)] are incorporated fully into the final product in such a way that no waste is generated.

There are no emissions to ground as a result of any activities on the site.

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## **Attachment E 5 – Noise Emissions**

### **Measurement of Noise Levels**

Noise levels on the site were measured by Bord na Mona and their report is included as part of this application (**Attachment E 5A**).

### **Locations of Noise Measurements**

The site map on page 5 of the Bord na Mona report shows the locations at which levels of noise from the site and ambient noise were measured.

These results are detailed in Table E 5 (i)

Since the measurements were made, the manufacture of hot-melt adhesives has ceased and this has reduced noise levels.

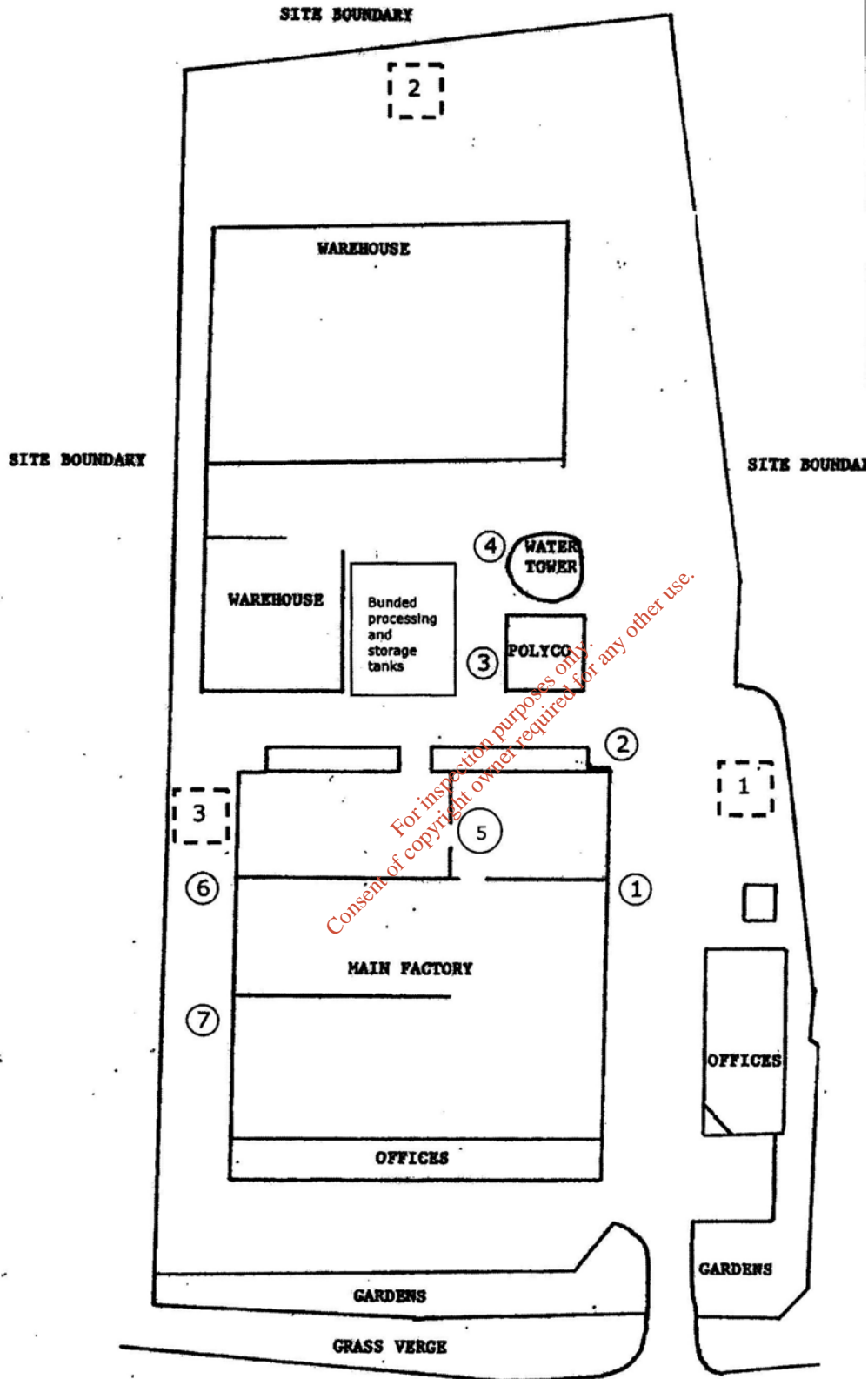
### **Nature of Noises**

Noises occur on the site as a result of the operation of extraction fans, pumps, motor-driven mixing machines a boiler and public address announcements.

### **Times of Noises**

Noises occur on the site during the periods:  
Monday – Thursday, 8:30 – 17:00; and  
Friday, 8:00 – 14:45

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**Figure 1.** Site map showing location locations at which levels of noise (numbered 1 – 8 and encircled) and ambient noise measurements (numbered 1 – 4 in broken squares) were made.

**ATTACHMENT NO. 24 - NOISE SOURCES AND EMISSIONS**

Burgess Galvin & Co. Ltd. operates a detergent and adhesives production facility on the Jamestown Road, Finglas. The site is operational between 08:00hrs and 17:30hrs, Monday to Friday. The site is bounded by the Jamestown Road, an industrial unit and by waste ground leading to other industrial units.

There are a number of externally located noise sources which are audible on the site boundaries during operational hours, these sources typically being extraction fans, a boiler, pumps and the breakout of noise from the manufacturing process. The character of these noise sources is mixed, varying between being tonal and broadband in nature. In addition, externally located loudspeakers used for paging employees are audible.

The approximate locations of these noise sources are shown in Figure 1 and the measured noise levels and octave band frequency spectra are included in Table 24(i) overleaf.

Reference No.	Source	Overall Level	Octave Band Centre Frequency (Hz)							
		dBA	63	125	250	500	1k	2k	4k	8k
1	Adhesive Area Door	72	73	67	71	66	64	63	64	66
2	Boiler House	69	70	66	71	61	60	60	55	50
3	Pump House at 2m	82	70	66	67	76	76	78	74	71
4	Pump at rear of Water Tower at 1m	76	74	77	70	72	72	68	66	57
5	Entrance to Mill Room	71	71	66	61	65	68	65	57	43
6	Wall extract fan at 5m	76	69	64	65	74	75	63	51	40
7	Extract grill at 1m	70	74	69	63	70	66	59	51	42
8	Pressure Washer cleaning ground	72	66	64	65	69	64	64	65	67

Table 24.(i) - Noise sources summary sheet

**ATTACHMENT NO. 25 - AMBIENT NOISE MEASUREMENTS**

Noise levels were measured at three locations on the site boundary. The measurement positions can be seen in Figure 1 and are described in turn below. It should be noted that no night-time noise measurements were taken as the site is only operational during the day (08:00hrs to 17:30hrs). A full list of the measured noise data can be found in Appendix B. Appendix C contains an explanation of the relevant acoustic parameters.

*Position 1* On the northern site boundary opposite the entrance to the adhesive area.

*Position 2* At the western (rear) site boundary

*Position 3* On the southern site boundary

Table 25.(i) below lists the highest values for  $L_{Aeq}$  and the lowest values for  $L_{A90}$  measured at each boundary location during the course of the survey.

Location	Overall Levels (dBA)	
	$L_{Aeq}$	$L_{A90}$
Posn. 1 - northern boundary of site	66	58
Posn. 2 - western boundary of site	60	51
Posn 3 - southern boundary of site	77	75

*Table 25.(i) Results of noise measurements on the site boundary*

**Comments:** The noise environment at Position 1 is dominated by noise generated on site as well as delivery vehicles passing this position. Traffic from the Jamestown Road is also audible.

The noise generated by delivery vehicles is dominant at Position 2; no plant sources are audible.

A wall mounted extract fan and noise from the industrial unit adjacent are primary noise sources at Position 3. Traffic noise from the Jamestown Road as well as occasional on-site fork lifts are also audible.

The closest noise-sensitive locations to Burgess Galvin are houses directly opposite the front entrance to the east and also a dwelling to the north of the site on Jamestown Road. The latter is mostly screened from the main production area by an office building and so only one measurement position was chosen to be representative of the noise sensitive locations; this position is described below.

*Position 4* On the pavement outside dwellings along Jamestown Road, directly opposite the eastern site boundary.

Table 25.(ii) below lists the highest values for  $L_{Aeq}$  and the lowest values for  $L_{A90}$  measured at the noise sensitive location during the survey period.

Location	Measurement Parameters	
	$L_{Aeq}$	$L_{A90}$
Posn 4 - at house on Jamestown Road	71	54

Table 25.(ii) - Noise levels measured at the nearest noise sensitive location

**Comments:** The noise climate during the sample measurement was dominated by road traffic and pedestrians. It was not possible to detect any noise emissions from Burgess Galvin during the measurement period.

## ATTACHMENT NO. 26 - NOISE IMPACT

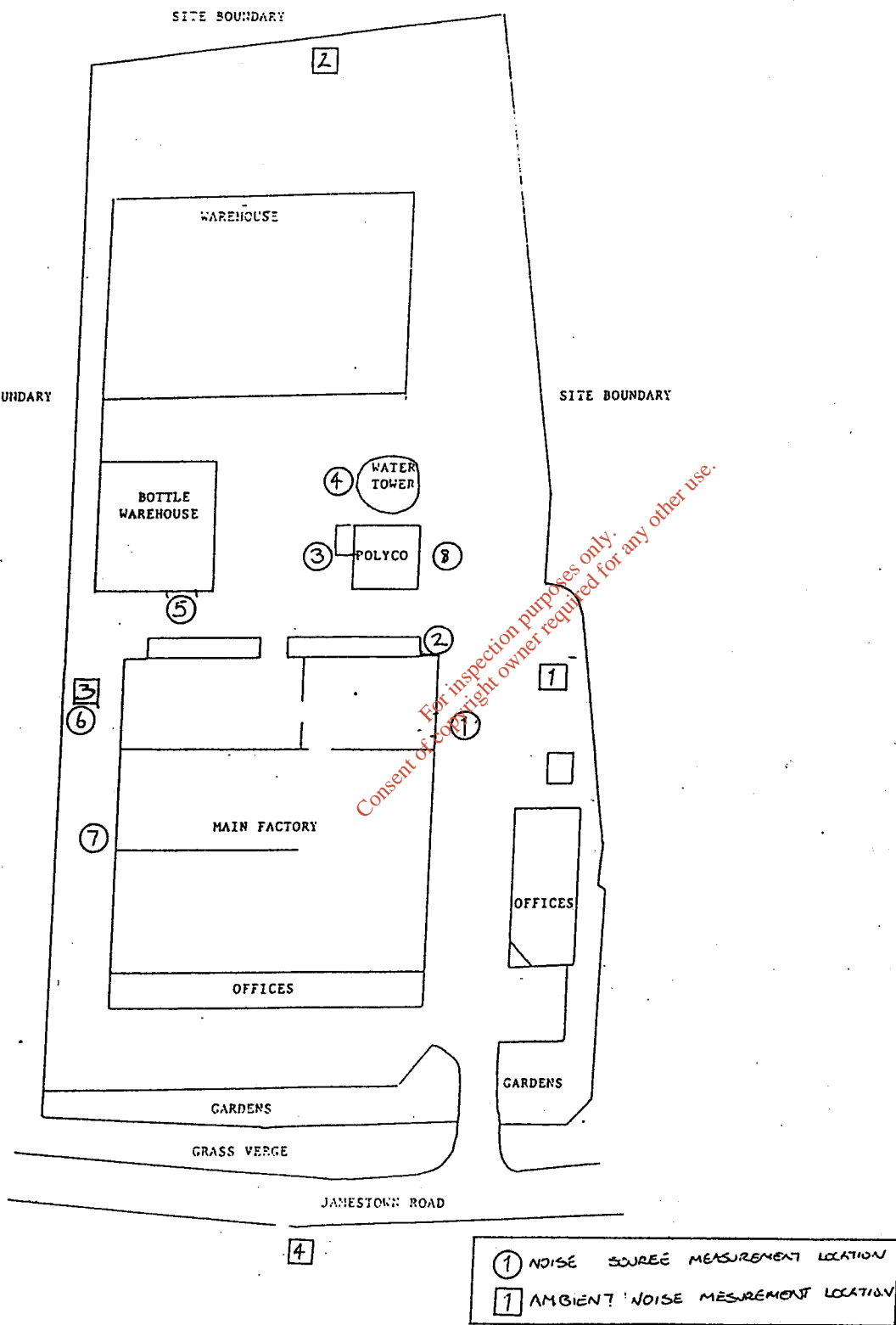
The noise climate in the vicinity of the Burgess Galvin site is made up of noise from the plant/activities associated with the site and adjoining industrial units and traffic on the Jamestown Road.

The Burgess Galvin site is not audible at Position 3 (i.e. the nearest noise sensitive location), the noise environment at this location being dominated by traffic and pedestrians using the Jamestown Road.

In conclusion, noise emissions from the site operated by Burgess Galvin & Co. Ltd. have a minimal impact on the local environment.

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FIGURE 1 - SITE PLAN SHOWING MEASUREMENT LOCATIONS



## APPENDIX A AMBIENT AND SITE NOISE SURVEY DETAILS

### A.1 Location of Survey

Burgess & Galvin Co. Ltd.  
Jamestown Road  
Finglas  
Dublin 11

### A.2 Date & Time of Survey

10:30hrs to 13.:30 hrs, 29th November 1995

### A.3 Personnel Present During Survey

Jon Farren - NES  
Christian Vossart - NES

### A.4 Instrumentation

Larson Davis LD2800 Real Time Analyser  
Brüel & Kjær Type 2231 Sound Level Meter  
Brüel & Kjær Type 4230 Sound Level Calibrator

### A.5 Calibration

Before and after the survey the measurement apparatus was check calibrated to an accuracy of  $\pm 0.3$ dB using the Type 4230 Sound Level Calibrator. The calibrator produces a sound pressure level of 94.0dB re  $2 \times 10^{-5}$ Pa at a frequency of 1kHz.

### A.6 Methodology

*Site Noise Survey* - Noise level measurements were performed at the locations stipulated in the main body of the report and stored in the internal memory of the LD2800 Real Time Analyser. The results were subsequently downloaded for analysis.

*Ambient Noise Survey* - A total of four measurement locations were selected in accordance with guidance provided by the EPA. All measurements were carried out generally in accordance with ISO 1996: *Description and Measurement of Environmental Noise*.

**APPENDIX B  
 AMBIENT NOISE SURVEY DATA**

Reference	Time	L <sub>Aeq</sub>	L <sub>Amax</sub>	L <sub>Amin</sub>	L <sub>A90</sub>	L <sub>A10</sub>
<b>Posn 1</b>						
1	11:00-11:20	66	81	61	63	67
2	12:04-12:24	63	79	57	58	65
<b>Posn 2</b>						
3	11:35-11:44	60	49	78	62	52
4	12:30-12:40	63	79	57	58	65
<b>Posn 3</b>						
5	11:45-12:05	76	57	86	76	75
6	12:30-12:50	77	74	91	77	76
<b>Posn 4</b>						
7	12:05-12:25	71	47	88	54	75

*Table B.1 Results of ambient noise measurements at Positions 1 to 4*

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## APPENDIX C

## ACOUSTICAL PARAMETERS

- L<sub>Acq</sub>** is the A-weighted equivalent continuous steady sound level and effectively represents an average value.
- L<sub>Amax</sub>** is the maximum A-weighted sound level measured during the sample period.
- L<sub>Amin</sub>** is the minimum A-weighted sound level measured during the sample period.
- L<sub>A90</sub>** is the A-weighted sound level which is exceeded for 90% of the sample period; used to quantify background noise.
- L<sub>A10</sub>** is the A-weighted sound level which is exceeded for 10% of the sample period; used to quantify traffic noise.
- A-weighting** is the process by which noise levels are corrected to account for the non-linearity of human hearing.

All quoted noise levels are relative to  $2 \times 10^{-5}$  Pa.



# **Attachment F 1 – Treatment, Abatement and Control Systems**

## **Discharges to Sewer**

The manufacture of wood preservative at this site does not result in any discharges of effluent to the sewer.

The effluent discharged to the sewer results from the manufacture of detergents. If necessary, the effluent is treated with acidic or alkaline solutions to adjust the pH before discharge.

The effluent is tested bimonthly by an external, ILAB-accredited laboratory to determine if it conforms to the terms of the IPPC license (Reg. P0075-2).

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## **Attachment F 2 – Emissions Monitoring and Sampling Points**

The monitoring and sampling points specified in **Attachment F 3** are maintained to comply with the terms of the current license (Reg. P0075-2).

However, the manufacture of wood preservative at this site does not involve emissions to the municipal sewer, the atmosphere, the ground, ground waters or surface waters.

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## **Attachment G – Use of Materials and Energy**

### **Raw Material Safety Data**

Material Safety Data Sheets for the raw materials used to manufacture wood preservatives on the site are included as part of this application (**Attachment G 1A**).

### **Product Safety Data**

Material Safety Data Sheets for the wood preservatives manufactured on the site are included as part of this application (**Attachment G 1B**).

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## **Attachment G 2 – Efficient Use of Resources and Energy**

Minimal amounts of energy (in driving electrically-operated blenders) are used to manufacture wood preservative on the site. This is because the materials involved blend easily. Some raw materials are warmed before use but temperature ranges involved are small, typically 15 – 30 C.

Furthermore, no additional energy is used in cleaning the processing vessels as no waste is generated. In other words, the values quoted in Table G.1(i) for usage refer to quantities of raw materials that are converted to product with essentially complete efficiency.

Therefore, Burgess Galvin & Co. Ltd. are confident that resources and energy are used efficiently on the site in manufacturing wood preservative.

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**1. IDENTIFICATION**

**PRODUCT NAME:** RESIN SOLUTION, flammable  
**UN NUMBER:** 1866  
**SUPPLIER:** VIL RESINS LTD, UNION ROAD, BOLTON, BL2 2DT  
**TELEPHONE:** 01204 388800  
**EMERGENCY TELEPHONE (OUTSIDE NORMAL WORKING HOURS):** 01204 361828

**2. COMPOSITION / INFORMATION ON INGREDIENTS**

Ingredient	EINECS	Cas No.	Contents	Health (Class)	Risk (R No)
Resin		--	40-90%	--	--
Low aromatic White Spirit	265-150-3	64742-48-9	10-60%	Xn	R10; R65; R66

**3. HAZARDS IDENTIFICATION**

The hazards for this product are associated with the solvent, which is low aromatic white spirit. However, the product as supplied has a viscosity in excess of 7 centipoise at 40°C, and hence does not carry the R65 risk phrase.  
 Flammable

**4. FIRST AID MEASURES**

**General** Move the exposed person to fresh air at once. Get medical attention if any discomfort continues.  
**Eyes** Flush with plenty of water for at least 10 minutes; seek medical attention.  
**Skin** Remove contaminated clothing. Wash skin thoroughly with soap and water. Wash clothes before reuse.  
**Ingestion** Do not induce vomiting. Give 2 glasses of water to drink. If patient vomits, turn into recovery position. Seek medical attention.  
**Inhalation** Remove to fresh air. If unconscious, turn into recovery position. If symptoms persist, seek medical attention.

**5. FIRE FIGHTING MEASURES**

**Extinguishing media** Fire can be extinguished using dry chemical alcohol resistant foam, carbon dioxide, sand, earth.  
**Special fire-fighting measures** Avoid breathing vapours. Keep surrounding area cool by spraying with water to minimise the risk of containers bursting. Keep run off water out of sewers and water sources. Dike for water control.

## 6. ACCIDENTAL RELEASE MEASURES

Extinguish any sources of ignition. Beware of sparks or static discharge. Wear necessary protective equipment. Absorb in vermiculite, dry sand or earth and place in containers. Dispose of in accordance with local authority legislation and guidelines. Do not contaminate water sources or sewers.

## 7. HANDLING AND STORAGE

**Storage** Store in mild or stainless steel. Store away from heat and sources of ignition. Keep in cool, dry, ventilated storage.

**Handling** Avoid contact with skin, eyes and clothing. Avoid breathing vapour, using approved respiratory protection if appropriate. Ensure all equipment is earthed to avoid static electricity.

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Ingredient	Cas No	STD	LT Exp (8 hrs)	ST Exp (15 min)
Low aromatic White spirit	64742-48-9	OEL	160ppm	

**Protective Equipment** Use Viton gloves. Wear approved safety goggles, wear appropriate clothing to avoid liquid contact, or prolonged vapour contact.

**Ventilation** Provide adequate exhaust ventilation

**Respiration** In areas of high vapour concentration, use air-fed breathing apparatus

**Hygienic work routines** Do not smoke in the work area. Wash at the end of each shift and before eating, smoking and using the toilet. Remove any contaminated clothing. Wash affected skin with soap and water. Use skin cream to counteract dryness.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance** Light to amber brown liquid

**Odour** paraffinic

**Solubility** Immiscible with water

**Viscosity at 25°C** 1-150 poise

**Flash point** 37-46°C (for low aromatic white spirit)

**S.G. at 15°C** 0.9-1.0

## 10. STABILITY AND REACTIVITY

**Stability** Stable under normal storage conditions.

**Conditions to avoid** Contact with oxidising agents.

**Hazardous decomposition products** Complete combustion gives mixtures of oxides of carbon and water

## 11. TOXICOLOGICAL INFORMATION

**Inhalation** Prolonged inhalation of high concentrations may damage respiratory system. Vapour may cause drowsiness, nausea, dizziness and ultimately unconsciousness

**Ingestion** Severe irritation of mucous membranes and of the alimentary canal.

**Skin** Prolonged or repeated contact causes irritation which may lead to dermatitis.

**Eyes** May cause irritation to eyes

## 12. ECOLOGICAL INFORMATION

This substance is biodegradeable; no long-term effects to aquatic organisms expected.

## 13. DISPOSAL CONSIDERATIONS

**Product** Do not pour down drains; dispose of in accordance with local authority.

**Packaging** Handle containers with the same care as the contents. Do not incinerate.

## 14. TRANSPORT INFORMATION

Label for conveyance



<b>Road</b>		<b>ADR Class No</b>	
<b>UN Number</b>	1866	<b>ADR Class no.</b>	3
<b>Hazard Class</b>	Class 3: Flammable liquid	<b>Hazard No (ADR)</b>	30
<b>*Packing Group</b>	III	<b>ADR Label No</b>	3
<b>Hazchem code</b>	3Y		
<b>Proper shipping name</b>	Resin solution, flammable		

## 15. REGULATORY INFORMATION

**Supply symbol** none

**Risk phrases** R10 flammable  
R66 repeated exposure may cause skin dryness and cracking

**Safety phrases** S24/25 avoid contact with skin and eyes  
S16 keep away from sources of ignition- no smoking

**Statutory Instruments** Chemicals (Hazard Information and Packaging) Regulations

## 16. OTHER INFORMATION

**Guidance notes** Occupational Exposure Limits EH40  
CHIP for Everyone HSG228  
Approved Supply List

PLEASE NOTE - This MSDS is intended for professional users only. It cannot be used as MSDS for products issued to the general public.

Note: Revision (s) denoted by an asterisk (S)

**Safety data sheet in accordance with 2001/58/EC  
SANDALKYD FAST GREEN 3GLS**

Page 1

Substance key: KSH100179  
Version : 3 - 1 / GBRevision Date: 07.07.2006  
Date of printing : 15.09.2006**1. Identification of the substance/preparation and company****Trade name****SANDALKYD FAST GREEN 3GLS****Material number:** 103452**Use of the substance/preparation.**

Type of use : Colourant preparation

**Identification of the company**

Clariant UK Ltd.

Calverley Lane, Horsforth  
LS18 4RP Leeds  
Telephone no. : +44 113 258 4646**Information about the substance/preparation**

Division Pigments &amp; Additives

**Emergency telephone number :** +44 113 258 4646**2. Composition/information on ingredients****Chemical characterization**

Chlorinated phthalocyanine pigment dispersed in Stoddard Solvent (White Spirit)

**Hazardous ingredients**

Stoddard solvent; Low boiling point naphtha - unspecified

Concentration :	30 - 35 %
CAS number :	8052-41-3
EINECS number :	232-489-3
Hazard symbols	Xn
R phrases	10 65

Naphtha (petroleum), hydrodesulfurized heavy

Concentration :	< 15 %
EINECS number :	265-185-4
Hazard symbols	Xn N
R phrases	10 51/53 65 66 67

**3. Hazards identification**

Flammable.

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**4. First aid measures****After inhalation**

Immediately seek fresh air after inhaling of dust, vapour or aerosol.

# Safety data sheet in accordance with 2001/58/EC

## SANDALKYD FAST GREEN 3GLS

Substance key: KSH100179  
Version : 3 - 1 / GB

Revision Date: 07.07.2006  
Date of printing : 15.09.2006

### After contact with skin

After contact with skin, wash immediately with plenty of water and soap.

### After contact with eyes

Immediately rinse eyes with running water and seek medical advice.

### After ingestion

If swallowed seek medical advice immediately (treat symptomatically).

## 5. Fire-fighting measures

### Suitable extinguishing media

water  
dry powder  
foam

### Extinguishing media that must not be used for safety reasons

no restrictions

### Special hazards from the substance itself, its combustion products or from its vapours

carbon oxides

### Further information

Cool container and metallic parts with a water spray jet  
Set up threefold fire attack, use extinguishants singly or in combination, equip branchman and support team with respiratory protective equipment.

## 6. Accidental release measures

### Additional information

Call the fire-brigade immediately.  
Evacuate endangered area, seal off area.  
Must not be released into sewers, drains or wells.  
Wear respiration protection.  
Take up as such and consider recycling.

## 7. Handling and storage

### Advice on safe handling

Keep away from sources of ignition - No smoking.  
Take precautionary measures against static discharges.  
Keep container tightly closed.

### Advice on protection against fire and explosion

Observe the usual precautionary measures required for preparations containing organic solvents.

## 8. Exposure controls/personal protection

### Hygiene measures

Do not breathe gas/fumes/vapour/spray.

Respiratory protection : Yes, if TLV value is exceeded

**Safety data sheet in accordance with 2001/58/EC  
SANDALKYD FAST GREEN 3GLS**Substance key: KSH100179  
Version : 3 - 1 / GBRevision Date: 07.07.2006  
Date of printing : 15.09.2006**Hand protection :** Nitrile rubber gloves.

These types of protective gloves are offered by various manufacturers. Please note the manufacturers' detailed statements, especially about the minimum thickness and the minimum breakthrough time. Consider also the particular working conditions under which the gloves are being used.

**Eye protection :** tightly fitting safety goggles**9. Physical and chemical properties**

**Form :** paste  
**Colour :** green  
**Odour :** not specified  
**Melting point :** not applicable  
**Boiling point :** > 140 °C  
**Flash point :** app. 37 °C  
**Density :** 1.03 g/cm<sup>3</sup> (20 °C)  
**Solubility in water :** insoluble

**10. Stability and reactivity**

**Hazardous decomposition products**  
When used and handled as intended, none.

**11. Toxicological information**

**Acute oral toxicity :** LD50 > 2,000 mg/kg  
**Irritant effect on skin :** non-irritant  
**Irritant effect on eyes :** slight irritant effect - does not require labelling

**Remarks**

The product was classified on the basis of the calculation procedure of the Dangerous Preparations Directive (1999/45/EC).

**12. Ecological information**

**Biodegradability :** Not applicable due to insolubility in water. This product does not come into contact with the effluent when it is used for its purpose, otherwise it can be removed by filtration operations.

**Fish toxicity :** LC50 10 - 100 mg/l  
Method : calculated

**Safety data sheet in accordance with 2001/58/EC**  
**SANDALKYD FAST GREEN 3GLS**Substance key: KSH100179  
Version : 3 - 1 / GBRevision Date: 07.07.2006  
Date of printing : 15.09.2006**13. Disposal considerations****Product**

Dispose of in accordance with local authority regulations

**Uncleaned packaging**

Packaging that cannot be cleaned should be disposed of as product waste

**14. Transport information****ADR**

Proper shipping name:	Paint related material
Class:	3
Packing group:	III
UN no.	UN 1263
Primary risk:	3
Hazard no. :	30
Remarks	Shipment permitted

**ADNR**

Proper shipping name:	Paint related material
Class:	3
Packing group:	III
UN no.	UN 1263
Primary risk:	3
Remarks	Shipment permitted

**RID**

Proper shipping name:	Paint related material
Class:	3
Packing group:	III
UN no.	UN 1263
Primary risk:	3
Hazard no. :	30
Remarks	Shipments permitted

**IATA**

Proper shipping name:	Paint related material
Class:	3
Packing group:	III
UN/ID number:	UN 1263
Primary risk:	3
Remarks	Shipment permitted

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# Safety data sheet in accordance with 2001/58/EC

## SANDALKYD FAST GREEN 3GLS

Substance key: KSH100179  
Version : 3 - 1 / GB

Revision Date: 07.07.2006  
Date of printing : 15.09.2006

### IMDG

Proper shipping name:	Paint related material
Class:	3
Packing group:	III
UN no.	UN 1263
Primary risk:	3
Remarks	Shipment permitted
Hazard inducer/Marine pollutant:	Turpentine Substitute
Marine pollutant:	Marine Pollutant
EmS :	F-E S-E

## 15. Regulatory information

### Labelling in accordance with EC-Directives

The product is classified and labelled in accordance with EC Directives

### R phrases

10	Flammable.
52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### S phrases

7	Keep container tightly closed.
23.2	Do not breathe fumes.
61	Avoid release to the environment. Refer to special instructions/Safety data sheets.

### Sensitizing components / contains :

Ethyl methyl ketoxime  
May produce an allergic reaction.

## 16. Other information

### Text of the R-phrases which are allocated to the ingredients/components mentioned in section 2 of this Safety Data Sheet.

10	Flammable.
51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
65	Harmful: may cause lung damage if swallowed.
66	Repeated exposure may cause skin dryness or cracking.
67	Vapours may cause drowsiness and dizziness.

The data are based on the current state of our knowledge, and are intended to describe the product with regard to the requirements of safety. The data should not be taken to imply any guarantee of a particular or general specification. It is the responsibility of the user of the product to ensure to his satisfaction that the product is suitable for the intended purpose and method of use. We do not accept responsibility for any harm caused by the use of this information. In all cases, our general conditions of sale apply.

**1. Identification of the substance/preparation and company/undertaking.**

**NAME** Methyl Ethyl Ketoxime

**SDS No** M018H

**Synonyms:** Skino 2, 2-Butanone Oxime, 2-Butanonoxime, Methyl Ethyl Ketone Oxime.

**Common uses:** Drier

**Supplied by:** **Univar Limited**  
46 Peckover Street  
BRADFORD  
West Yorkshire  
BD1 5BD

Tel: 01274 377000  
Fax: 01274 737058  
Emergency No. (Office hours): 01274 377070

**2. Composition/information on ingredients.**

**Contains:**

<u>Hazardous ingredient / impurity</u>	<u>% Conc.</u>	<u>Classification</u>	<u>Exposure</u>	<u>CAS</u>	<u>EINECS</u>
Methyl Ethyl Ketoxime		Xn, R21, 40, 41, 43, Carc Cat 3		96-29-7	202-496-6

**3. Hazards identification.**

**Classification:** Xn, R21, 40, 41, 43, Carc Cat 3

Harmful in contact with skin, Limited evidence of a carcinogenic effect, Risk of serious damage to the eyes, May cause sensitization by skin contact.

**4. First Aid measures.**

<u>Exposure Route</u>	<u>Symptom</u>	<u>Treatment</u>
<b>Inhalation</b>	Drowsiness, headaches & dizziness	Remove from exposure, rest and keep warm. In severe cases, or if recovery is not rapid or complete seek medical attention.
<b>Skin Contact</b>	Irritation which may lead to defatting on repeated or prolonged contact	Drench the skin with plenty of water. Remove contaminated clothing and wash before reuse. If large areas of the skin is damaged or if irritation persists seek medical attention.
<b>Eye Contact</b>	Irritation	Irrigate thoroughly with water for at least 10 minutes. Obtain medical attention.
<b>Ingestion</b>	Irritation of the gastrointestinal tract.	Wash out mouth with water. Do not induce vomiting. If patient is conscious, give water to drink. If patient feels unwell seek medical attention.

**Immediate Treatment / Antidote:** Symptomatic treatment

**5. Fire Fighting measures.**

**Suitable Extinguishers:** alcohol resistant foam, dry powder, Carbon dioxide. Cool heat exposed containers using water jet

**Hazardous Combustion Products:** Oxides of Carbon & Nitrogen. Methyl Ethyl Ketone

**Special Equipment for Fire Fighting:** Self-contained breathing apparatus.

**6. Accidental Release measures.**

**Personal Precautions:** Wear appropriate PPE - See section 8. Remove all unauthorised personnel from the area. Avoid contact with eyes, skin & clothing.

**Environmental Precautions:** Prevent the material from entering the watercourses & drains. If the material enters these areas then inform the appropriate authorities.

**Clean up Procedure:** Bund or absorb material with sand, earth or other suitable absorbent material. If possible, transfer to a salvage tank, otherwise absorb residues and place in suitable labelled containers and hold for waste disposal. Wash the affected area with plenty of water.

---

#### 7. Handling & Storage.

##### **Handling**

**Ventilation:** Good general ventilation.

**Recommended procedures & equipment:** Keep away from sources of ignition and heat. Open containers with care as to ensure the slow pressure release.

##### **Storage**

**Temperature range:** Cool

Containers which are opened should be carefully resealed and kept upright to prevent leakage. Keep containers tightly closed and store in a cool and dry place. Do not store with Acids, Oxidising agents, Alkalis

**Keep away from:** See section 10

**Suitable storage Media:** Store in original containers.

---

#### 8. Exposure Controls/personal protection.

##### **Personal Protective Equipment:**

**Respiratory:** If ventilation is insufficient the use a respiratory protection apparatus.

**Hand:** Butyl rubber gloves, or neoprene gloves.

**Eye:** Safety glasses with side shields

**Skin:** Overalls & Boots

**Environmental controls:** Users should be aware of environmental considerations and their duties under the environmental protection act. Further advice may be found on various government websites: e.g. [www.dti.gov.uk/access/index.htm](http://www.dti.gov.uk/access/index.htm) and [www.envirowise.gov.uk](http://www.envirowise.gov.uk)

**Hygiene Measures:** Always wash thoroughly after handling chemicals.

---

#### 9. Physical & Chemical Properties.

<b>Appearance</b>	Colourless to yellowish liquid
<b>Odour</b>	Ether like
<b>pH</b>	7.0 - 8.5
<b>Boiling Point/range</b>	152°C
<b>Melting Point/range</b>	-29.5°C
<b>Flash point</b>	63°C
<b>Vapour Pressure</b>	2.00mmHg @ 20°C
<b>Relative density</b>	0.92g/ml
<b>Solubility in water</b>	Partially Soluble

---

#### 10. Stability & Reactivity.

**Stability:** Stable in normal conditions

**Conditions to avoid:** Avoid ignition sources and sources of heat, & naked flames

**Materials to avoid:** Acids, Oxidising agents, Alkalis

**Hazardous decomposition products:** oxides of Carbon & Nitrogen, methyl Ethyl Ketone.

---

#### 11. Toxicological Information.

##### **Toxicological effects:**

Acute Oral Toxicity:	LD <sub>50</sub> Rat	2300 – 3700 mg/kg
Acute dermal toxicity	LD <sub>50</sub> Rabbit	920 – 1840 mg/kg
Acute inhalation toxicity	LC <sub>50</sub> Rat	> 4.8mg/l
Acute toxicity	LD <sub>50</sub> mouse	1000mg/kg

##### **Effects after repeated or prolonged exposition (subacute, Subchronic, chronic)**

**Oral:** Methyl Ethyl ketoxime produces an adverse effect upon red blood cells (Anaemia) of all test animals, for those levels tested.

**Dermal:** mild haematological effects when administering 200mg/kg, however when administering 20mg/kg there were no observed effects.

**Inhalation:** Liver carcinomas were observed in a lifetime study in which mice and rats were exposed to MEKO 6hr/day, 5days/week for 18 and 26 months respectively. These carcinomas were statistically increased in males at concentrations of 375 ppm. In addition degenerative effects on the olfactory epithelium of the nasal passages occurred in concentration related manner in males and females of both species at concentrations of 15,75 & 375ppm. The effects at 15ppm were minimal. The effect at all concentrations was limited to the olfactory tissue situated in the anterior dorsal region of the nasal cavity. Large areas of the olfactory epithelium laterally and posteriorly were not affected. A subsequent subchronic inhalation study of mice found the effect after one week of exposure at 30ppm (6hr/day 5days/week) but no increase in incidence or severity occurred with increasing exposure duration up to 13 weeks. Evidence was found after cessation of exposure. The no observed effect level was 3ppm.

**Mutagenicity:** Not considered to be mutagenic.

**Experience:** Repeated or prolonged skin contact may lead to defatting and irritation of the skin. Eye contact with the vapour may lead to irritation. Inhalation of the vapours may lead to headaches, drowsiness & dizziness.

---

#### 12. Ecological Information.

##### **Environmental Effects:**

**Degradability:** Biodegradable

##### **Aquatic Toxicity:**

Fish Toxicity:	LC <sub>50</sub> : Bluegill	48mg/l /96hours
Daphnia toxicity	EC <sub>50</sub> :	750mg/l/48hours

---

#### 13. Disposal considerations.

**Substance:** Via an authorized waste disposal contractor to an approved waste disposal site, observing all local and national regulations.

**Container:** As substance. Used containers must not be cut up or punctured until completely purged of product residues.

---

**14. Transport Information.**

Not regulated for transportation

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**15. Regulatory Information.**

**Supply label details:** Ref. CHIP 3

**Label Name** Methyl Ethyl Ketoxime

**Symbols** Xn Harmful

**Risk Phrases** R21,40,41,43 – Harmful in contact with skin, Limited evidence of carcinogenic effect, Risk of serious damage to eyes, May cause sensitization by skin contact.

**Safety Phrases** S13,23,26,36/37/39 – Keep away from food, drink and animal feeding stuffs, Do not breathe vapour/spray, In case of contact with eyes, rinse immediately with plenty of water and seek medical advice, Wear suitable protective clothing, gloves and eye/face protection.

**E.C. No** 202-496-6

**Additional labelling:**

**Use of this material may be governed by the following regulations:-** (users are advised to consult these regulations for further information).

COSHH

The information contained in this data sheet does not constitute an assessment of workplace risks.

---

**16. Other Information.**

List of relevant risk phrases:

Phrase	Text
R21	Harmful in contact with skin.
R40	Limited evidence of carcinogenic effect.
R41	Risk of serious damage to eyes.
R43	May cause sensitization by skin contact.

Information sources: Suppliers safety data sheet

Training advice: users should be trained in good industrial hygiene practices.

This material must not be used for: - -

Changes to this datasheet are indicated by sidebars (I) in the left hand margin.

Further details may be available upon request from your local Univar Limited distribution site.

**Legal Disclaimer:**

The above information is based on the present state of our knowledge of the product at the time of publication. It is given in good faith, no warranty is implied with respect to the quality or the specification of the product. The user must satisfy himself that the product is entirely suitable for his purpose.

Turnhoutseweg 30  
 B-2340 Beerse, Belgium

## WOCOSEN TECHNICAL

### 1. Product and company identification

<b>Product name</b>	WOCOSEN Technical	<b>Company/undertaking identification</b>	Janssen Pharmaceutica N.V. Turnhoutseweg 30 B-2340 Beerse, Belgium
<b>Product identification</b>	ZR049362		
<b>Product Code no.</b>	024338	<b>Emergency telephone number</b>	national: 014/60 22 22 international: 32 14/60 22 22
<b>Product application</b>	Wood Protection		

### 2. Information on the ingredient

CAS no.	Identification	Einecs no.	%	Symbols	R-phrases
60207-90-1	(±)-1-((2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxolan-2-yl)methyl)-1H-1,2,4-triazole	262-104-4	≥ 93 % w/w	Xn N	R22 R43 R50/53

### 3. Hazards identification

<b>Human health hazards</b>	Harmful if swallowed. May cause sensitization by skin contact.
<b>Environmental hazards</b>	Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

### 4. First-aid measures

<b>First aid in general</b>	Remove the affected person from the danger zone to a well-ventilated room or to fresh air, and protect from undercooling. IN CASE OF SUSPECTED POISONING: Immediately call a physician.
<b>Ingestion</b>	Repeatedly administer medicinal charcoal in a large quantity of water. NOTE: Never give anything by mouth to an unconscious person. Do not induce vomiting.
<b>Skin contact</b>	Remove contaminated clothing and thoroughly wash the affected parts of the body with soap and water, including hair. Contaminated clothing must be washed before re-use.
<b>Eye contact</b>	Rinse eyes with clean water for at least 10 minutes and immediately call a physician.
<b>Inhalation</b>	If symptoms are experienced, move to fresh air and get medical attention.
<b>Note to physician</b>	No specific antidote known. Symptomatic treatment.

**SAFETY DATA SHEET** (Directive 2001/58/EEC)

**WOCOSEN TECHNICAL**

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**5. Fire-fighting measures**

<b>Extinguishing media</b>	Dry chemical powder, CO <sub>2</sub> , foam or water spray (do not use direct jet of water).
<b>Special exposure hazards</b>	Combustion products are toxic and/or irritant. Measures have to be taken to prevent the contaminated extinguishing agent from seeping into the ground or from spreading uncontrollably.
<b>Special protective equipment for firefighters</b>	Gloves, protective clothing and respirator to protect from fumes.

---

**6. Accidental release measures**

<b>Personal precautions</b>	See section 8 for personal protection measures
<b>Environmental precautions</b>	Keep spills and cleaning runoffs away from drains, surface- and ground-water and soil.
<b>Methods for cleaning up</b>	See section 13 for disposal recommendations.

---

**7. Handling and storage**

<b>Handling</b>	Good standards of hygiene should be maintained at all times. Avoid contact with skin, eyes and clothing. Avoid inhalation of fog and vapors. Do not eat, drink or smoke while working. In addition to the measures taken usually in the chemical works like splashproof filling and measuring equipment (including vapor stripping), further personal protection measures may have to be implemented to avoid possible contact with the product.
<b>Storage</b>	Keep out of reach of children, in well closed original containers in a dry and well ventilated place, away from food, feed and stimulants. Protect from light and humidity.

---

**8. Exposure controls and personal protection**

<b>Respiratory protection</b>	Normally non required under normal treatment and at room temperature. In case of heavy exposure or at high temperatures: gas mask.
<b>Hand protection</b>	Impervious gloves.
<b>Eye protection</b>	Goggles or face shield.
<b>Skin protection</b>	Heavy duty cotton or synthetic fabric working clothes (e.g. overalls). Heavy duty shoes or boots. Change working clothes daily.
<b>Other protective equipment</b>	Eye fountain and washing facilities at work area required.

---

**SAFETY DATA SHEET** (Directive 2001/58/EEC)

**WOCOSEN TECHNICAL**

**9. Physical and chemical properties**

*General information:*

**Appearance** ..... light yellow to dark-yellow,  
clear highly viscous liquid  
**Odor**..... slight odor

*Other information:*

**Melting point**..... not applicable  
**Miscibility** ..... not miscible with water  
**Conductivity** ..... ( )  
**pK/a**..... 1.09 (20 °C)  
**Refraction index** ..... ( )  
**Volatility**..... 0.0038 mg/m<sup>3</sup> (20°C)  
**Auto-ignition temp.**... 430 °C

*Important health, safety and environmental information:*

**pH of a 1 % solution in deionized water** ... 4.9 (25 °C)  
**Boiling point**..... > 250 °C (101.3 kPa) and  
..... 99.9 °C (320 mPa)  
**Flash point**..... 200 °C (Pensky-Martens c.c.  
at 101.3 kPa)  
**Explosive properties.** not explosive  
**Oxidizing properties** not oxidizing  
**Evaporation rate** ..... ( )  
**Dynamic viscosity**.... 69630 Pa.s (20°C)  
**Vapor pressure** ..... 0.000027 Pa (20 °C)  
..... 0.000056 Pa (25 °C)  
**Vapor density** ..... ( )  
**Relative density**..... 1.289 g/cm<sup>3</sup> (20 °C)  
**Partition coefficient**.. log P n-Octanol/ water = 3.72  
(25 °C and pH = 6.6)

**Solubility**

**Water solubility**  
100 mg/l (20 °C)

**Fat solubility**  
( )

**Solubility in solvents**

n-hexane..... 4.7 g/100 ml (25°C)  
Completely miscible with ethanol, acetone, ethyl acetate, methylene chloride and n-octanol (25 °C).

**10. Stability and reactivity**

**Conditions to avoid** This material is considered stable under standard conditions.

**Materials to avoid** This material is not corrosive. Thermally not sensitive.

**Hazardous decomposition products** No indication of degradation was found after storage under the investigated conditions.

## WOCOSEN TECHNICAL

### SAFETY DATA SHEET (Directive 2001/58/EEC)

## 11. Toxicological information

Acute Oral	LD <sub>50</sub> rat = 1517 mg/kg LD <sub>50</sub> mouse = 1490 mg/kg
Acute Dermal	LD <sub>50</sub> rat > 4000 mg/kg LD <sub>50</sub> rabbit > 6000 mg/kg
Acute Inhalation	LC <sub>50</sub> rats (4 h) > 5800 mg/m <sup>3</sup>
Eye irritation	non-irritant (rabbit)
Skin irritation	non-irritant (rabbit)
Skin sensitization	sensitizing (guinea-pig)
Mutagenicity	not mutagenic
Teratogenicity	not teratogenic

## 12. Ecological information

### Ecotoxicity:

- Fish, acute toxicity  
Trout (*Salmo trutta*) LC<sub>50</sub> (96h) : 5.3 mg/l  
Common carp (*Cyprinus carpio*) LC<sub>50</sub> (96h) : 6.8 mg/l  
Bluegill sunfish LC<sub>50</sub> (96h) : 6.4 mg/l  
Catfish (*Ameiurus nebulosus*) LC<sub>50</sub> (96h) : 5.1 mg/l
- *Daphnia magna*, acute toxicity  
EC<sub>50</sub> (48h) : 10.2 mg/l
- Algae, acute toxicity  
Green algae (*Scenedesmus subspicatus*)  
EC<sub>50</sub> (72h) : 0.76 mg/l
- Bees, acute oral toxicity  
acute contact toxicity  
Honey bee (*Apis mellifera*) LD<sub>50</sub> > 100 µg/bee  
Honey bee (*Apis mellifera*) LD<sub>50</sub> (96h) > 100 µg/bee
- Worms, acute toxicity  
Earthworm (*Eisenia foetida*) LC<sub>50</sub> (14d) > 250 mg/kg
- Birds, acute oral toxicity  
Mallard duck LD<sub>50</sub> > 2510 mg/kg  
Bobwhite quail LD<sub>50</sub> : 2825 mg/kg  
subacute oral toxicity  
Mallard duck LC<sub>50</sub> (8d) > 5620 ppm

### Mobility:

Known or predicted distribution to environmental compartments: ( )  
Surface tension: 46.6-48.4 mN/m (1%, 20°C)  
Absorption/desorption: ( )

### Persistence and degradability:

Not biodegradable.

### Bioaccumulative potential:

( )

### Other adverse effects:

( )

### 13. Disposal considerations

Soak up spilled material with absorptive material such as sand, soil, diatomaceous earth, etc. Prevent product from spreading e.g. by damming in with absorptive material. Clean contaminated area thoroughly with carbonated or soapy water. Do not allow the wash water to run off into any sewer, stream, well or pond, and if necessary soak it up with more absorbent material. Collect spillage and washing waters in specially marked, tightly closing containers. Dispose of in a manner approved by Local Authority. Spilled product cannot be used further and must be disposed of. Dispose of empty containers in an incinerator approved for chemicals. Damaged containers should be placed in specially marked larger ones. Check possibilities of recycling large empty containers, drums and barrels.

### 14. Transport information

ICAO/IATA UN3082 Environmentally hazardous substance, liquid, n.o.s., 9, III  
 IMO/IMDG UN3082 Environmentally hazardous substance, liquid, n.o.s., 9, III  
 ADR/RID UN3082 Environmentally hazardous substance, liquid, n.o.s., 9, III

### 15. Regulatory information on the active ingredient

EEC Directives 67/548 and 1999/45: Symbols: **Xn (Harmful)**  
**N (Dangerous for the environment)**

**Hazard phrases:**

R22 Harmful if swallowed.  
 R43 May cause sensitization by skin contact.  
 R50/53 Very toxic to aquatic organisms. May cause long-term effects in the aquatic environment.

**Safety phrases:**

S2 Keep out of reach of children.  
 S13 Keep away from food, drink and animal feeding stuffs.  
 S20/21 When using, do not eat, drink or smoke.  
 S36/37 Wear suitable gloves and protective clothing.  
 S46 If swallowed, seek medical advice immediately and show this container or label  
 S61 Avoid release to the environment. Refer to special instructions/Safety Data Sheets.

### 16. Other information

- Recommended use:**  
Wocosen Technical is a fungicide that should only be used for formulation of wood preservatives.
- Amendments to previous version:**  
Section 14: Transport information.

# Safety data for permethrin

[Glossary](#) of terms on this data sheet.

The information on this web page is provided to help you to work safely, but it is intended to be an overview of hazards, not a replacement for a full Material Safety Data Sheet (MSDS). MSDS forms can be downloaded from the web sites of many chemical suppliers.

## General

### Synonyms:

(3-phenoxyphenyl)methyl(+/-)-cis,trans-3-(2,2-dichloroethenyl)-2,2-dimethylcyclopropanecarboxylate, 3-Phenoxybenzyl-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate, very wide range of trade names, including ambush, actiban, exmin, indothrin, pertox, anomethrin, matadan, antiborer, outflank, pramex, permethrin, persect, perthrine, kafil, efmethrin and many others.

Molecular formula: C<sub>21</sub>H<sub>20</sub>Cl<sub>2</sub>O<sub>3</sub>

Chemical family: Synthetic pyrethroid

CAS No: 52645-53-1

EINECS No:

## Physical data

Appearance: colourless crystals (but the technical product is normally supplied as a pale brown liquid)

Melting point: 34 C

Boiling point: 200 C at ca. 1 mm Hg

Vapour density:

Vapour pressure:

Density (g cm<sup>-3</sup>): 1.19

Flash point:

Explosion limits:

Autoignition temperature:

Water solubility: insoluble

## Stability

Stable. Incompatible with strong oxidising agents.

## Toxicology

Skin and eye irritant. May be harmful if swallowed.

### Toxicity data

(The meaning of any abbreviations which appear in this section is given [here](#).)

Note: Toxicity depends on cis-trans ratio of the product.

ORL-RAT LD50 430 - 4000 mg kg<sup>-1</sup>

ORL-MUS LD50 540 - 2700 mg kg<sup>-1</sup>

SKN-RAT LD50 > 4000 mg kg<sup>-1</sup>

SKN-RBT LD50 > 2000 mg kg<sup>-1</sup>

### Risk phrases

(The meaning of any risk phrases which appear in this section is given [here](#).)

R36 R37 R38.

## Transport information

Non-hazardous for air, sea and road transport.

## Environmental information

Estimated half-life in the vapour phase (present as particulate matter) 10 h. Estimated half-life in soil 30 d.

## Personal protection

Safety glasses. If used as a garden spray, avoid exposure to mist and liquid, wear gloves.

### Safety phrases

(The meaning of any safety phrases which appear in this section is given [here.](#))

[Return to [Physical & Theoretical Chemistry Lab. Safety home page.](#)]

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Safety Data Sheet  
according to Directive 2001/58/EC

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name:** AUTOMATE BROWN 2 XS LIQUID DYE

**Product Use Description:** Colorant for petroleum products

**Supplier** Rohm and Haas Company  
Lennig House 2, Mason Avenue  
Croydon CR9 3NB United Kingdom  
Telephone: +44 (0)208 774 5300

**Emergency telephone number**  
United Kingdom +44 (0)191 4898181

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a preparation.

Component	CAS-No.	EINECS-No.	W/W	Classification
Xylene	1330-20-7	215-535-7	30,0 - 50,0 %	Xn R10, R20/21, R38
Ethylbenzene	100-41-4	202-849-4	7,0 - 10,0 %	F, Xn R11, R20
Ethylhexylamine	104-75-6	203-233-8	0,1 - 0,2 %	T R10, R21/22, R23, R34

## 3. HAZARDS IDENTIFICATION

Flammable.  
Harmful by inhalation and in contact with skin.  
Irritating to skin.

## 4. FIRST AID MEASURES

**Inhalation:** Remove to fresh air. Oxygen or artificial respiration if needed. Immediate medical attention is required

**Skin contact:** Wash off with soap and plenty of water. Remove contaminated clothing. Consult a physician. Wash clothing before reuse. Do not take clothing home to be laundered.

**Eye contact:** Rinse immediately with plenty of water for at least 15 minutes. Immediate medical attention is required

**Ingestion:** Drink 1 or 2 glasses of water. Never give anything by mouth to an unconscious person. IMMEDIATELY see a physician. Do not induce vomiting; contains petroleum distillates and/or aromatic solvents.

### Notes to physician

Exposure to xylene can affect the CNS, pulmonary, cardiovascular, and gastrointestinal systems. Liver enzymes, EKG, serum electrolytes, and a chest X-ray should be done in cases of massive exposure. Careful gastric lavage may be indicated.

## 5. FIRE-FIGHTING MEASURES

**Thermal decomposition** Combustion generates toxic fumes of the following: carbon oxides, nitrogen oxides (NO<sub>x</sub>)

**Suitable extinguishing media:** Use the following extinguishing media when fighting fires involving this material:  
 alcohol-resistant foam  
 carbon dioxide (CO<sub>2</sub>)  
 dry chemical  
 water spray

**Specific hazards during fire fighting:** Vapors can travel to a source of ignition and flash back. Heated material can form flammable or explosive vapors with air. Closed containers may rupture via pressure build-up when exposed to fire or extreme heat.

**Special protective equipment for fire-fighters:** Wear self-contained breathing apparatus and protective suit.

**Further information:** Move containers promptly out of fire zone. If removal is impossible, cool containers with water spray.

Remain upwind.

Avoid breathing noxious fumes from fire-exposed material.

Contain run-off.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions

Appropriate protective equipment must be worn when handling a spill of this material. See SECTION 8, Exposure Controls/Personal Protection, for recommendations.

If exposed to material during clean-up operations, see SECTION 4, First Aid Measures, for actions to follow.

### Methods for cleaning up

Evacuate personnel to safe areas.

Eliminate all ignition sources including those beyond the immediate spill area.

Ventilate the area.

Floor may be slippery; use care to avoid falling.

Contain spills immediately with inert materials (e.g., sand, earth).

Transfer liquids and solid diking material to separate suitable containers for recovery or disposal.

Avoid breathing vapor.

**CAUTION:** Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

## 7. HANDLING AND STORAGE

### Storage

**Storage conditions:** Avoid temperature extremes during storage; ambient temperature preferred. Store away from excessive heat (e.g. steampipes, radiators), from sources of ignition and from reactive materials. Ground all metal containers during storage and handling. Keep tightly closed in a dry, cool and well-ventilated place. Keep away from direct sunlight. Material can burn; limit indoor storage to approved areas equipped with automatic sprinklers. Avoid all ignition sources.

### Further information:

Vapors can be evolved when material is heated during processing operations. See SECTION 8, Exposure Controls/Personal Protection, for types of ventilation required.

Ground all containers when transferring material.

Wash after handling and shower at end of work period.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Exposure limit(s)

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value
Xylene	OEL (EU)	TWA	50 ppm
	OEL (EU)	STEL	100 ppm
	OEL (EU)	SKIN_DES	
	UKCOSSTD	TWA	100 ppm
	UKCOSSTD	STEL	150 ppm
	UKCOSSTD	SKIN_DES	
	ACGIH	TWA	100 ppm
	ACGIH	STEL	150 ppm
	Rohm and Haas	TWA	50 ppm
	Rohm and Haas	STEL	75 ppm
		Absorbed via skin	

Component	Regulation	Type of listing	Value
Ethylbenzene	Rohm and Haas	TWA	50 ppm
	Rohm and Haas	STEL	75 ppm
	UKCOSSTD	TWA	441 mg/m3 100 ppm
	UKCOSSTD	STEL	552 mg/m3 125 ppm
	ACGIH	TWA	434 mg/m3 100 ppm
	ACGIH	STEL	543 mg/m3 125 ppm
	OEL (EU)	TWA	442 mg/m3 100 ppm
	OEL (EU)	STEL	884 mg/m3 200 ppm
	OEL (EU)	SKIN_DES	
	UKCOSSTD	SKIN_DES	

### Exposure controls

**Eye protection:** Use chemical splash goggles and face shield (ANSI Z87.1 or approved equivalent). Eye protection worn must be compatible with respiratory protection system employed.

**Hand protection:** Chemical-resistant gloves should be worn whenever this material is handled. The glove(s) listed below may provide protection against permeation. (Gloves of other chemically resistant materials may not provide adequate protection): Neoprene gloves VITON Synthetic Rubber (registered Trademark of Dupont Dow Elastomers) Norfoil (Trademark of Siebe North, Inc.) Gloves should be removed and replaced immediately if there is any indication of degradation or chemical breakthrough. Rinse and remove gloves immediately after use. Wash hands with soap and water.

**Skin and body protection:** Use chemically resistant apron or other impervious clothing to avoid prolonged or repeated skin contact.

**Respiratory protection:** A respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements or equivalent must be followed whenever workplace conditions warrant a respirator's use. None required if airborne concentrations are maintained below the exposure limit listed in Exposure Limit Information. Up to 1000 ppm organic vapor: Wear a properly fitted NIOSH approved (or equivalent) full-facepiece, air-purifying respirator, OR full facepiece, airline respirator in the pressure demand mode. Above 1000 ppm organic vapor or Unknown: Wear a properly fitted NIOSH approved (or equivalent) self-contained breathing apparatus in the pressure demand mode, OR full-facepiece, airline respirator in the pressure demand mode with emergency escape provision. Air-purifying respirators should be equipped with NIOSH approved (or equivalent) organic vapor cartridges and N95 filters. If oil mist is present, use R95 or P95 filters.

**Protective measures:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

**Engineering measures:** Use explosion-proof local exhaust ventilation with a minimum capture velocity of 100 ft/min (0.5 m/sec) at the point of vapor evolution. Refer to the current edition of Industrial Ventilation: A Manual of Recommended Practice published by the American Conference of Governmental Industrial Hygienists for information on the design, installation, use, and maintenance of exhaust systems.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	liquid
Colour	dark brown
Odour	aromatic
pH	not applicable
Boiling point/range	137 - 144 °C Xylene
Melting point/range	-35 °C Xylene
Flash point	>28 °C SETAFLASH CLOSED CUP
Ignition temperature	466 - 530 °C Xylene
Lower explosion limit	1 %(V)Xylene
Upper explosion limit	7 %(V)Xylene
Vapour pressure	666,6 - 879,9 Pa at 20 °C Xylene
Relative vapour density	3,6Xylene
Water solubility	insoluble
Relative density	0,96 - 1,01
Viscosity, dynamic	8 - 80 mPa.s
Evaporation rate	<1 Xylene
Percent volatility	55 - 57 % approximately

NOTE: The physical data presented above are typical values and should not be construed as a specification.

## 10. STABILITY AND REACTIVITY

<b>Hazardous reactions</b>	This material is considered stable. However, avoid contact with ignition sources (e.g. sparks, open flame, heated surfaces).
<b>Materials to avoid</b>	acids Strong Alkalis Strong Oxidizers
<b>Hazardous decomposition products</b>	There are no known hazardous decomposition products for this material.
<b>polymerization</b>	Product will not undergo polymerization.

## 11. TOXICOLOGICAL INFORMATION

Component: <u>Xylene</u> <b>Acute oral toxicity</b>	LD50 rat 4.300 mg/kg
Component: <u>Ethylbenzene</u> <b>Acute oral toxicity</b>	LD50 rat 3.500 mg/kg
Component: <u>Xylene</u> <b>Acute inhalation toxicity</b>	LC50 rat 4 h 29,09 mg/l
Component: <u>Ethylbenzene</u> <b>Acute inhalation toxicity</b>	LC50 rat 17,375 mg/l
Component: <u>Xylene</u> <b>Acute dermal toxicity</b>	LD50 rabbit 14.100 mg/kg
Component: <u>Ethylbenzene</u> <b>Acute dermal toxicity</b>	LD50 rabbit > 15.000 mg/kg
Component: <u>Xylene</u> <b>Skin irritation</b>	rabbit Moderate irritation.
Component: <u>Xylene</u> <b>Eye irritation</b>	rabbit moderate to severe.
Component: <u>Xylene</u> <b>Subchronic toxicity</b>	Animal studies indicate prolonged inhalation exposures may cause the following: brain damage
Component: <u>Xylene</u> <b>Toxicity to reproduction</b>	In laboratory studies, birth defects, increased fetal lethality and delayed fetal development have been observed in offspring of female animals exposed during pregnancy.
Component: <u>Ethylbenzene</u> <b>Subchronic toxicity</b>	IARC assessment: this product is possibly carcinogenic to humans (Group 2B).

Component: **Ethylbenzene**

**Carcinogenicity:** This product contains ethylbenzene. A study conducted by the National Toxicology Program states that lifetime inhalation exposure of rats and mice to high concentrations of ethylbenzene (750 ppm) resulted in increases in certain types of cancer, including kidney tumors in rats and lung and liver tumors in mice. Incidences of testicular adenoma were increased along with increased incidences of thyroid effects in rats at 750 ppm; pituitary effects were observed in female mice at 250 ppm. These effects were not observed in animals exposed to lower concentrations of ethylbenzene (75 ppm). The study does not address the relevance of these results to humans.

Component: **Ethylbenzene**

**Toxicity to reproduction**

Inhalation

## 12. ECOLOGICAL INFORMATION

There is no data available for this product.

### Xylene

**Ecotoxicity effects**

**Toxicity to fish**

LC50 Rainbow trout (*Oncorhynchus mykiss*) 96 h  
13,5 mg/l

**Toxicity to aquatic invertebrates**

EC50 *Daphnia magna*  
150 mg/l

### Ethylbenzene

**Ecotoxicity effects**

**Toxicity to fish**

LC50 Rainbow trout (*Oncorhynchus mykiss*) 96 h  
4,2 mg/l

**Toxicity to algae**

EC50 Algae (*Selenastrum capricornutum*) 72 h  
4,6 mg/l

**Toxicity to aquatic invertebrates**

EC50 *Daphnia magna* 48 h  
2,1 mg/l

## 13. DISPOSAL CONSIDERATIONS

### **Disposal**

Incinerate liquid and contaminated solids in accordance with local, state, and federal regulations.

### **European Waste Catalogue (94/3 EC)**

The definitive assignment of this material to the appropriate EWC group and thus its proper EWC code will depend on the use that is made of this material. If the material as delivered must be disposed of, or you require assistance with assigning the proper EWC code, please contact your local Rohm and Haas office

**14. TRANSPORT INFORMATION****Classification for ROAD and Rail transport (ADR/RID):**

<b>Proper shipping name</b>	FLAMMABLE LIQUID, N.O.S. (non viscous)(Ethylbenzene, Xylene)
<b>UN-No</b>	UN 1993
<b>Class</b>	3
<b>Packing group</b>	III

**Classification for SEA transport (IMO-IMDG):**

<b>Proper shipping name</b>	FLAMMABLE LIQUID, N.O.S.(Ethylbenzene, Xylene)
<b>UN-No</b>	UN 1993
<b>Class</b>	3
<b>Packing group</b>	III

**Classification for AIR transport (IATA/ICAO):**

<b>Proper shipping name</b>	Flammable liquid, n.o.s.(Ethylbenzene, Xylene)
<b>UN-No</b>	UN 1993
<b>Class</b>	3
<b>Packing group</b>	III

**15. REGULATORY INFORMATION****Label**

Classification and labeling have been performed according to EU directives 67/548/EEC and 99/45/EC including amendments.

**Hazard symbol and Indication of danger**

Xn Harmful

**Contains:** Xylene; Ethylbenzene; Ethylhexylamine

**R-phrase(s)**

R10 Flammable.  
R20/21 Harmful by inhalation and in contact with skin.  
R38 Irritating to skin.

**S-phrase(s)**

S23 Do not breathe spray.  
S24 Avoid contact with the skin.  
S36/37 Wear suitable protective clothing and gloves.

**EU. EINECS (EINECS)** This product satisfies all the requirements of the European Inventory of Existing Chemical Substances (EINECS).

**US. Toxic Substances Control Act (TSCA)** All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

**16. OTHER INFORMATION****List of relevant R-phrases**

R10	Flammable.
R20/21	Harmful by inhalation and in contact with skin.
R38	Irritating to skin.
R11	Highly flammable.
R20	Harmful by inhalation.
R10	Flammable.
R21/22	Harmful in contact with skin and if swallowed.
R23	Toxic by inhalation.
R34	Causes burns.

**Emergency telephone number**

Belgium	+32 (0)3 5750330
Spain	+34 948 822700
France	+33 (0)3 88736000
Germany	+49 (0)421 64980
Netherlands	+31 (0)651 053078
Italy	+39 0363 320555
South Africa	+27 (0)31 7053260
Sweden	+46 (0)418 450490
United Kingdom	+44 (0)191 4898181
U.S.A.	+1 215 5923000

**Legend**

ACGIH	American Conference of Governmental Industrial Hygienists
BAC	Butyl acetate
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
STEL	Short Term Exposure Limit (STEL):
TLV	Threshold Limit Value
TWA	Time Weighted Average (TWA):
	Bar denotes a revision from prior MSDS.

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Version: 1.0  
Revision date: 20.02.2003  
Print Date: 06/23/2004  
Layout 1001262

1	<b>SUBSTANCE/PRODUCT IDENTIFICATION</b>
COMPANY:	<b>Caldo Oils Limited</b>
ADDRESS:	Worsley Brow, Sutton, St. Helens, Merseyside. WA9 3EZ Tel: (01744) 813535 Fax: (01744) 816031
PRODUCT NAME:	<b>PREMIUM ODOURLESS KEROSENE (ROLF) Product Code: 052</b>
2	<b>COMPOSITION/INFORMATION ON INGREDIENTS</b>
	E.E.C. Number Symbol/s Risk Phrases Approximate Concentration %w/w
3	<b>HAZARDS IDENTIFICATION</b>
INHALATION:	
SKIN:	Above (OEL), vapour is irritant, may cause drowsiness, nausea, dizziness and ultimately unconsciousness
EYES:	
INGESTION:	Liquid is a mild skin irritant. Repeated contact may cause dermatitis. Liquid is a mild eye irritant. Low viscosity product. If after ingestion vomiting occurs, harmful or fatal is aspirated into the lungs.
4	<b>FIRST AID MEASURES</b>
INHALATION:	Remove to fresh air. If unconscious turn into the recovery position. Get medical help.
SKIN:	Wash with soap and water.
EYES:	Flush out with clean water for 10 minutes. Get medical help.
INGESTION:	Do not make patient vomit. Place patient in the recovery position. Get medical help.
5	<b>FIRE FIGHTING MEASURES</b>
SMALL FIRES	Use carbon dioxide, dry chemical, foam, sand, earth or water fog.
LARGE FIRES.	Use foam or water fog. Keep containers cool by spraying with water.
6	<b>ACCIDENTAL RELEASE MEASURES</b>
	Any spillage may be absorbed into sand, clay or similar absorbent material. Disposal should be carried out in accordance with the Special Waste Regulations. If any liquid enters drainage system inform Authorities Fire Brigade and Environmental Agency.
7	<b>STORAGE AND HANDLING</b>

HANDLING:	Avoid release of oil mists pump at no greater than 7 metres per second.		
STORAGE:	Keep in tightly closed, clearly labelled containers. No smoking. Naked flames, hot elements or other ignition sources must not be present.		
8	<b>EXPOSURE CONTROLS (mg/m3) AND PERSONAL PROTECTION</b>		
OES 8 HR TWA	O.E.L. 8 hr TWA 5 as oil mist		
MEL	OEL Sol 8 hr TWA		
Protection	Wear impervious gloves and suitable eye protection..		
9	<b>PHYSICAL AND CHEMICAL PROPERTIES</b>		
FORMULA	Not applicable	Vapour Density gm/L @ 20° C	7.6
MOLECULAR WEIGHT	185.	Viscosity c.St. @ 20° C	2.5
SOLUBILITY IN WATER	Insoluble	Vapour Pressure KP = @20° C	Not determined
APPEARANCE	Clear almost colourless liquid	Boiling Points ° C	171-293
SOLUBILITY/ORGANICS	Miscible with many	Freeze Point ° C	-20
ODOUR	Mild	Flash Point ° C	63
EVAPORATION RATE	Not determined	Auto ignition Temp ° C	230
DENSITY Kg/L @ 15° C	0.756 V/L	Explosion Limits %	0.6 – 8.0
<b>06/07/00 15:20</b>			
10	<b>STABILITY AND REACTIVITY</b>		
	Stable at normal temperatures and pressures. Not reactive at normal temperature and pressure conditions.		
11	<b>TOXICOLOGICAL INFORMATION</b>		
INHALATION	Not available.		
SKIN CONTACT	Not available.		
EYE CONTACT	Not available.		
DIGESTION	Not available.		
12	<b>ECOLOGICAL INFORMATION</b>		

	None available				
13	<b>DISPOSAL CONSIDERATIONS</b>				
	This material must be disposed of via Authorised Waste/Disposal Company in accordance with local and or National Waste Disposal Regulations.				
14	<b>TRANSPORT INFORMATION</b>				
<b>UN NUMBER</b>	None	<b>EMS</b>	None	<b>IMDG</b>	None
<b>PACK GRP</b>	None	<b>MFAG</b>	None	<b>Marine Pollutant</b>	No
<b>CAS Nos</b>	64771-71-7	<b>Trans.Cat.</b>	None	<b>EEC Number</b>	265-232-9
<b>CAO.IATA</b>	None	<b>Trans.Class</b>	None	<b>ADR</b>	None
<b>TREM CARD</b>	None	<b>Kemler Code</b>	None	<b>Emergency Action Code</b>	3(Z)
15	<b>REGULATORY INFORMATION</b>				
	<p>SUPPLY - HARMFUL</p> <p>CARRIAGE - LOW HAZARD</p> <p>R65 Harmful ; May cause lung damage if swallowed.</p> <p>S24/25 Avoid contact with skin and eyes.</p> <p>S37 Wear suitable gloves.</p> <p>S43 In case of fire, use sand, earth, foam or water fog.</p> <p>S62 If swallowed, do not induce vomiting ; seek medical advice immediately and show this container or label.</p> <p>Reference should be made to Health and Safety at Work Act and Control of Substances Hazardous to Health Regs.</p>				
16	<b>OTHER INFORMATION</b>				
	<p>Further information can be found in Health and Safety Executive publications a list of which may be available on request.</p> <p>The data and advice given apply when the product is sold for the stated application or applications. The product is not sold as suitable for any other application. Use of the product for applications other than stated in this sheet may give rise to risks not mentioned. You should not use the product other than for the stated application or applications with out seeking advice from us.</p>				

If you have purchased the product for supply to a third party for use at work, it is your duty to take all the necessary steps to secure that any person handling or using the product is provided with the information in this sheet.

If you are an employer, it is your duty to tell your employees and others who may be affected of any hazards described in this sheet and of any precautions which should be taken.

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### 1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

**Product name:** SURFAC ARF

**Index number:** Log No: 11

**Product code:** ARF

**Use / description of product:** Hydrotrope.

**Company name:** Surfachem Group Ltd

100 Wellington Street

Leeds

West Yorkshire

LS1 4LT

UK

Tel: + 44 (0)113 394 9200

Fax: + 44 (0)113 244 5910

Emergency tel: + 44 (0)1865 407 333

### 2. COMPOSITION / INFORMATION ON INGREDIENTS

**Ingredients:** QUATERNARY FATTY AMINE ETHOXYLATE 100.000%

CAS: 68989-03-7

[Xi] R41; [N] R51/53;

### 3. HAZARDS IDENTIFICATION

**Main hazards:** Risk of serious damage to eyes. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### 4. FIRST AID MEASURES (SYMPTOMS)

**Skin contact:** There may be irritation and redness at the site of contact. An itchy rash may occur at the site of contact.

**Eye contact:** There may be pain and redness. The eyes may water profusely. There may be severe pain. The vision may become blurred. May cause permanent damage.

**Ingestion:** There may be soreness and redness of the mouth and throat. Nausea and stomach pain may occur.

**Inhalation:** There may be irritation of the throat with a feeling of tightness in the chest.

### 4. FIRST AID MEASURES (ACTION)

**Skin contact:** Remove all contaminated clothes and footwear immediately unless stuck to skin. Drench the affected skin with running water for 10 minutes or longer if substance is still on skin. Consult a doctor.

**Eye contact:** Bathe the eye with running water for 15 minutes. Transfer to hospital for specialist examination.

**Ingestion:** Do not induce vomiting. If conscious, give 1 pint of water to drink immediately. Consult a doctor.

**Inhalation:** Remove casualty from exposure ensuring one's own safety whilst doing so. Consult a doctor.

[cont...]

**SAFETY DATA SHEET**

SURFAC ARF

**5. FIRE-FIGHTING MEASURES**

**Extinguishing media:** Suitable extinguishing media for the surrounding fire should be used. Use water spray to cool containers.

**Protection of fire-fighters:** Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions:** Mark out the contaminated area with signs and prevent access to unauthorised personnel. Do not attempt to take action without suitable protective clothing - see section 8 of SDS.

**Environmental precautions:** Do not discharge into drains or rivers. Contain the spillage using bunding.

**Clean-up procedures:** Absorb into dry earth or sand. Transfer to a closable, labelled salvage container for disposal by an appropriate method. Wash the spillage site with large amounts of water.

**7. HANDLING AND STORAGE**

**Handling requirements:** Ensure there is sufficient ventilation of the area. Avoid direct contact with the substance.

**Storage conditions:** Store in cool, well ventilated area. Keep container tightly closed.

**Suitable packaging:** Must only be kept in original packaging.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Engineering measures:** Ensure there is sufficient ventilation of the area.

**Respiratory protection:** Self-contained breathing apparatus must be available in case of emergency. The specific respiratory protection device must be selected by a qualified person.

**Hand protection:** Nitrile gloves.

**Eye protection:** Tightly fitting safety goggles. Ensure eye bath is to hand.

**Skin protection:** Protective clothing.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**State:** Liquid

**Colour:** Pale yellow

**Odour:** Odourless

**Solubility in water:** Soluble

**Also soluble in:** Ethanol.

**Viscosity value:** ~500mPas

**Boiling point/range°C:** >100

**Melting point/range°C:** ~10

**Autoflammability°C:** >150

**Relative density:** ~1.11

**pH:** 7-9(1%)

**10. STABILITY AND REACTIVITY**

**Stability:** Stable under normal conditions.

**Materials to avoid:** Strong oxidising agents. Strong acids.

[cont...]

**SAFETY DATA SHEET**

SURFAC ARF

**Haz. decomp. products:** In combustion emits toxic fumes.

**11. TOXICOLOGICAL INFORMATION**

**Acute toxicity:** SURFAC ARF  
 ORL RAT LD50 <2000 mg/kg

**Routes of exposure:** Refer to section 4 of SDS for routes of exposure and corresponding symptoms.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity:** SURFAC ARF  
 FISH 96H LC50 1-10 mg/l

**Mobility:** Soluble in water.

**Persistence and degradability:** Only slightly biodegradable.

**13. DISPOSAL CONSIDERATIONS**

**Disposal operations:** D10 Incineration on land.

**Disposal of packaging:** Dispose of as normal industrial waste.

**NB:** The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

**14. TRANSPORT INFORMATION**

**ADR / RID**

**UN no:** 3082 **ADR Class:** 9  
**Hazard ID no:** 90 **Labelling:** 9  
**Shipping name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Quaternary fatty acid ethoxylate)

**IMDG / IMO**

**UN no:** 3082 **Class:** 9  
**Packing group:** III **EmS:** -  
**Marine pollutant:** . **Labelling:** 9

**IATA / ICAO**

**UN no:** 3082 **Class:** 9  
**Packing group:** III **Packing instructions:** 914  
**Quantity:** NO LIMIT  
**Labelling:** 9

**15. REGULATORY INFORMATION**

**Hazard symbols:** Irritant.  
 Dangerous for the environment.



**Risk phrases:** R41: Risk of serious damage to eyes.

[cont...]

**SAFETY DATA SHEET**  
SURFAC ARF

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Safety phrases:** S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S39: Wear eye / face protection.

S61: Avoid release to the environment. Refer to special instructions / safety data sheets.

**Note:** The regulatory information given above only indicates the principal regulations specifically applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

**16. ADDITIONAL INFORMATION**

**Risk phrases used in s.2:** R41: Risk of serious damage to eyes.

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Legal disclaimer:** The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.

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### 1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

**Product name:** SURFAC PINE OIL 85/90%

**Index number:** Log No: 503

**Product code:** PINE8590

**Synonyms:** DIPENTINE/TERPENE ALCOHOL MIXTURE

**Use / description of product:** Cleaning agent. Solvent. Fragrance additive.

**Company name:** Surfachem Group Ltd

100 Wellington Street

Leeds

West Yorkshire

LS1 4LT

UK

Tel: + 44 (0)113 394 9200

Fax: + 44 (0)113 244 5910

Emergency tel: + 44 (0)1865 407 333

### 2. COMPOSITION / INFORMATION ON INGREDIENTS

**Ingredients:** PINE OIL 85.000%

CAS: 8002-09-3

EINECS: 304-455-9

[Xi] R38;

### 3. HAZARDS IDENTIFICATION

**Main hazards:** Irritating to skin.

### 4. FIRST AID MEASURES (SYMPTOMS)

**Skin contact:** There may be irritation and redness at the site of contact. An itchy rash may occur at the site of contact.

**Eye contact:** There may be irritation and redness. There may be pain and redness.

**Ingestion:** There may be soreness and redness of the mouth and throat. Nausea and stomach pain may occur. There may be irritation of the throat.

**Inhalation:** Nausea and stomach pain may occur. There may be vomiting.

### 4. FIRST AID MEASURES (ACTION)

**Skin contact:** Remove all contaminated clothes and footwear immediately unless stuck to skin. Drench the affected skin with running water for 10 minutes or longer if substance is still on skin. Transfer to hospital if there are burns or symptoms of poisoning.

**Eye contact:** Bathe the eye with running water for 15 minutes. Transfer to hospital for specialist examination.

**Ingestion:** Do not induce vomiting. If conscious, give 1 pint of water to drink immediately. Transfer to hospital as soon as possible.

**Inhalation:** Remove casualty from exposure ensuring one's own safety whilst doing so. Consult a doctor.

[cont...]

**SAFETY DATA SHEET**

SURFAC PINE OIL 85/90%

**5. FIRE-FIGHTING MEASURES**

**Extinguishing media:** Carbon dioxide. Alcohol or polymer foam. Dry chemical powder.

**Exposure hazards:** In combustion emits toxic fumes of carbon dioxide and carbon monoxide.

**Protection of fire-fighters:** Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions:** Mark out the contaminated area with signs and prevent access to unauthorised personnel. Eliminate all sources of ignition. Do not attempt to take action without suitable protective clothing - see section 8 of SDS.

**Environmental precautions:** Do not discharge into drains or rivers. Contain the spillage using bunding.

**Clean-up procedures:** Absorb into dry earth or sand. Transfer to a closable, labelled salvage container for disposal by an appropriate method. Wash the spillage site with large amounts of water.

**7. HANDLING AND STORAGE**

**Handling requirements:** Ensure there is sufficient ventilation of the area. Avoid direct contact with the substance.

**Storage conditions:** Store in cool, well ventilated area. Keep container tightly closed. Keep away from sources of ignition.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Engineering measures:** Ensure there is sufficient ventilation of the area.

**Respiratory protection:** Self-contained breathing apparatus must be available in case of emergency.

**Hand protection:** Nitrile gloves. Neoprene gloves.

**Eye protection:** Tightly fitting safety goggles.

**Skin protection:** Protective clothing with elasticated cuffs and closed neck. Boots made of PVC.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**State:** Liquid

**Colour:** Pale yellow

**Odour:** Characteristic odour

**Oxidising:** Non-oxidising (by EC criteria)

**Solubility in water:** Not miscible

**Also soluble in:** Alcohol

**Viscosity:** Non-viscous

**Boiling point/range°C:** ~204

**Melting point/range°C:** 0-10

**Flash point°C:** 75

**Vapour pressure:** 1mm Hg@20°C

**Relative density:** ~0.92

[cont...]

**10. STABILITY AND REACTIVITY**

**Stability:** Stable under normal conditions.

**Conditions to avoid:** Heat. Sources of ignition.

**Materials to avoid:** Oxidising agents. Acids.

**Haz. decomp. products:** In combustion emits toxic fumes of carbon dioxide and carbon monoxide.

**11. TOXICOLOGICAL INFORMATION**

**Acute toxicity:** SURFAC PINE OIL 85/90%

ORL RAT LD50 3200 mg/kg

**Routes of exposure:** Refer to section 4 of SDS for routes of exposure and corresponding symptoms.

**12. ECOLOGICAL INFORMATION**

**Mobility:** Insoluble in water. Vapour is heavier than air.

**Persistence and degradability:** Only slightly biodegradable.

**13. DISPOSAL CONSIDERATIONS**

**Disposal operations:** D10 Incineration on land.

**Disposal of packaging:** Dispose of as normal industrial waste.

**NB:** The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

**14. TRANSPORT INFORMATION**

**ADR / RID**

**IMDG / IMO**

**IATA / ICAO**

**15. REGULATORY INFORMATION**

**Hazard symbols:** Irritant.



**Risk phrases:** R38: Irritating to skin.

**Safety phrases:** S2: Keep out of the reach of children.

S28: After contact with skin, wash immediately with plenty of detergent and water.

**Note:** The regulatory information given above only indicates the principal regulations specifically applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

**16. ADDITIONAL INFORMATION**

**Risk phrases used in s.2:** R38: Irritating to skin.

**Legal disclaimer:** The above information is believed to be correct but does not purport to be all inclusive and shall

[cont...]

## **SAFETY DATA SHEET**

SURFAC PINE OIL 85/90%

be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.

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# ARCOSOLV® DPM

## SECTION 1: IDENTIFICATION

**Product Name:** ARCOSOLV® DPM  
**Product Number:** 000000000000011654  
**Internal ID:** 1128  
**Chemical Family:** Propylene Glycol Ethers  
**CAS Number:** 34590-94-8  
**Chemical Name:** Dipropylene Glycol Monomethyl Ether  
**Synonyms:** DPM, Dipropylene Glycol Methyl Ether, DPGME  
**Type of Use:** Solvent.

### Supplier



National Chemical Company  
 NCC House,  
 42 Lower Leeson Street,  
 Dublin 2  
 Telephone: +353-1-6131400  
 Facsimile: +353-1-6340132  
 E-Mail: [info@ncc.ie](mailto:info@ncc.ie)  
 Web: [www.ncc.ie](http://www.ncc.ie)

**National Chemical Company's Emergency Number 086 8303413**

## SECTION 2 : COMPOSITION/INFORMATION ON INGREDIENTS

<u>Component Name</u>	<u>CAS #</u>	<u>EU Inventory</u>	<u>Concentration Wt.%*</u>	<u>Risk</u>	<u>Symbol</u>
Dipropylene Glycol Monomethyl Ether	34590-94-8	252-104-2	<= 100.0	None	None

\* Concentration of gaseous products or materials is given in Mole %  
 Compositions given are typical values not specifications.

## SECTION 3: HAZARD IDENTIFICATION

### Emergency Overview

**Hazards**

Not Regulated. Complimentary Information: Slight eye irritant. Combustible.

**R-Phrases**

None

**Physical State**

Liquid.

**Color**

Clear, colorless.

**Odor**

Ether-like odor.

**Odor Threshold**

No value available.

**ARCOSOLV® DPM****Potential Health Effects****Routes of Exposure**

Eye Skin. Inhalation

**Signs and Symptoms of Acute Exposure**

See component summary.

- *Dipropylene Glycol Monomethyl Ether 34590-94-8*

Slight eye irritant. Contact may cause mild skin irritation. This material may be absorbed through the skin. Excessive exposures may affect central nervous system (CNS), cause skin irritation and produce anesthetic or narcotic effects.

**Skin**

No significant signs or symptoms indicative of any adverse health hazard are expected to occur as a result of skin exposure. No significant signs or symptoms indicative of any health hazard are expected to occur as a result of skin absorption exposure.

**Inhalation**

No significant signs or symptoms indicative of any adverse health hazard are expected to occur as a result of inhalation exposure.

**Eye**

May cause minor eye irritation.

**Ingestion**

No significant signs or symptoms indicative of any health hazard are expected to occur as a result of ingestion.

**Chronic Health Effects**

See component summary.

- *Dipropylene Glycol Monomethyl Ether 34590-94-8*

May cause dermatitis by defatting the skin from prolonged or repeated contact.

**Conditions Aggravated by Exposure**

No known conditions are aggravated by this material.

**SECTION 4: FIRST AID MEASURES****General**

After adequate first aid, no further treatment is required unless symptoms reappear. If you feel unwell, seek medical advice (show the label where possible).

**Skin**

Remove contaminated clothing as needed. Wash skin thoroughly with mild soap and water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Seek medical attention if discomfort persists.

**Inhalation**

If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

**Eye**

Thoroughly flush the eyes with large amounts of clean low-pressure water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation persists, seek medical attention.

**Ingestion**

If large quantity swallowed, give lukewarm water (pint/ 1/2 litre) if victim completely conscious/alert. Do not induce vomiting. Risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention.

**Note to Physician**

Treat symptomatically. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

## ARCOSOLV® DPM

**SECTION 5: FIRE FIGHTING MEASURES****Flammable Properties****Classification**  
Combustible.**Flash Point:**  
~ 75 °C (167 °F) (TCC)**Auto-Ignition Temperature**  
No Data Available.**Lower Flammable Limit**  
No Data Available.**Upper Flammable Limit**  
No Data Available.**Extinguishing Media****Suitable:** SMALL FIRE: Use dry chemical, CO<sub>2</sub>, water spray or regular foam. LARGE FIRE: Use water spray, water fog or regular foam. Do not use straight streams.**Unsuitable:** Do not use solid water stream.**Protection of Firefighters****Protective Equipment/Clothing:** Wear an approved positive pressure self-contained breathing apparatus and firefighter turnout gear. Structural firefighters protective clothing will only provide limited protection.**Fire Fighting Guidance:** Heat from fire can generate flammable vapor. When mixed with air and exposed to ignition source, vapors can burn in open or explode if confined. Flammable vapors may be heavier than air and travel long distances along the ground before igniting and flashing back to vapor source. Fine sprays/mists may be combustible at temperatures below normal flash point. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. Always stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles, if this is impossible, withdraw from area and let fire burn.**Hazardous Combustion Products:** Carbon Monoxide and other toxic vapors.**SECTION 6: ACCIDENTAL RELEASE MEASURES****Release Response**

Eliminate all sources of ignition. All equipment used when handling this product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material.

**SECTION 7: HANDLING AND STORAGE****Handling**

For industrial use only. Keep container tightly closed when not in use. The potential for peroxide formation is enhanced when these solvents are used in processes such as distillation. Use only non-sparking tools. Properly ground containers before beginning transfer. When transferring propylene glycol ethers with flash points at or below 60 °C (140 °F) into fixed site vessels, the vessel should be purged and inerted prior to transfer. Propylene glycol ethers may be transferred into air atmospheres if the temperature of the product and the ambient temperature within the shipping container are both at least 16.7 °C (30 °F) less than the product's flash point. After loading, nitrogen blanketing is required if the contents of the transportation container could exceed a temperature of 16.7 °C (30 °F) less than the product flash point during any subsequent transportation activities. If the product flash point is less than 16.7 °C (30 °F) above either the ambient temperature of the transportation container or the storage temperature of the product, the container should be purged and inerted with nitrogen prior to loading and nitrogen blanketed after loading. Handle empty containers with care. Flammable/combustible residue remains after emptying. The purging of all empty shipping containers, regardless of the flashpoint, is recommended when received with air atmospheres. Isolate, vent, drain, wash and purge systems or equipment before maintenance or repair. Use adequate personal protective equipment. Observe precautions pertaining to confined space entry.

# ARCOSOLV® DPM

## Storage

Store only in tightly closed, properly vented containers away from heat, sparks, open flame and strong oxidizing agents. Storage under nitrogen atmosphere is recommended to minimize possible formation of highly reactive peroxides. Store in properly lined steel/stainless steel to avoid slight discoloration from mild steel/copper. Aluminum (5000 series alloys - U.S. Aluminum Association Standard) showed no corrosion after 30 days contact with ARCOSOLV® PM Acetate, ARCOSOLV® DPM, TPM, PTB, or PM at 71°C (160°F). Some plastics/rubbers are attacked by Glycol Ethers/Ether Esters. This product will absorb water if exposed to air.

## SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

### Engineering Controls

Local exhaust in addition to general room ventilation may be required to meet exposure limit(s).

### Personal Protection

**Inhalation** No special respiratory protection equipment is recommended under anticipated conditions of normal use. If exposure exceeds the exposure limit(s), use respiratory equipment recommended or approved by appropriate local, state or international agency.

**Skin** Wear chemical resistant gloves such as: Neoprene. Depending on the conditions of use, protective gloves, apron, boots, head and face protection should be worn.

**Eye** Use splash goggles when eye contact due to splashing or spraying liquid is possible.

### Additional Remarks

Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the hazards and/or potential hazards that may be encountered during use. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Promptly remove soiled clothing/wash thoroughly before reuse.

### Occupational Exposure Limits

Component Name	Source / Date	Value	Type	Notation
Dipropylene Glycol Monomethyl Ether	US (ACGIH) / 2003	100 ppm	8 HRS/TWA	Skin.
	US (ACGIH) / 2003	150 ppm	15 MIN/STEL	Skin.
	MAK (AT) / 2003	50 ppm	8 HRS/TWA	Skin.
	MAK (AT) / 2003	100 ppm	CEILING	Skin.
	OEL (BE) / 2002	50 ppm	8 HRS/TWA	Skin.
	MAK (DA) / 2002	50 ppm	8 HRS/TWA	Skin.
	ELV (FI) / 2002	50 ppm	8 HRS/TWA	Skin.
	INRS (FR) / 1999	100 ppm	8 HRS/TWA	No
	MAK (DE) / 2003	50 ppm	8 HRS/TWA	Skin.
	ELV (IE) / 2002	50 ppm	8 HRS/TWA	Skin.
	OEL (IT) / 2003	50 ppm	8 HRS/TWA	Skin.

# ARCOSOLV® DPM

MAC (NL) / 2003	50 ppm	8 HRS/TWA	No
ELV (NO) / 2001	50 ppm	8 HRS/TWA	Skin.
PORTUGAL / 2001	50 ppm	8 HRS/TWA	Skin.
VLA (ES) / 2003	50 ppm	8 HRS/TWA	Skin.
TLV (SE) / 2000	50 ppm	8 HRS/TWA	Skin.
TLV (SE) / 2000	75 ppm	15 MIN/STEL	Skin.
SUVA (CH) / 2003	50 ppm	8 HRS/TWA	No
SUVA (CH) / 2003	50 ppm	CEILING	No
HSE (UK) / 2003	50 ppm	8 HRS/TWA	Skin. IOELV

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Liquid. Clear, colorless.

**Odor:** Ether-like odor.

**Odor Threshold:** No value available.

**pH:** No Data Available.

**Boiling Point/Boiling Range:** ~ 180 °C (356 °F) @ 760 mm Hg

**Freezing Point/Melting Point:** ~ -80 °C (-112 °F)

**Flash Point:** ~ 75 °C (167 °F) (TCC)

**Auto-ignition:** No Data Available.

**Flammability:** Combustible.

**Lower Flammable Limit:** No Data Available.

**Upper Flammable Limit:** No Data Available.

**Explosive Properties:** No Data Available.

**Oxidizing Properties:** No Data Available.

**Vapor Pressure:** ~ 0.4 mm Hg @ 25 °C (77 °F)

**Evaporation Rate:** ~ 0.02 (butyl acetate = 1)

**Relative Density:** ~ 0.95 @ 25 °C (77 °F)

**Relative Vapor Density:** ~ 5.1 @ 16 - 32 °C (60.8 - 89.6 °F) (Air = 1.0)

**Viscosity:** ~ 4 mPa.s @ 25 °C (77 °F) (Brookfield).

**Solubility (Water):** Complete (In All Proportions).

**Partition Coefficient (Kow):** No Data Available.

**Additional Physical and Chemical Properties:** Hygroscopic. Additional properties may be listed in Sections 3 and 5.

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# ARCOSOLV® DPM

## SECTION 10: STABILITY AND REACTIVITY

### Chemical Stability

This material is stable when properly handled and stored.

### Conditions to Avoid

Extended contact with air or oxygen. The potential for peroxide formation is enhanced when these solvents are used in processes such as distillation. Heat, sparks, open flame, other ignition sources, and oxidizing conditions. Ignition may occur at temperatures below those published in the literature as autoignition or ignition temperatures.

### Substances to Avoid

Air or oxygen. Strong oxidizing agents. May react with oxygen to form peroxides. However, there is no known evidence that it has nearly the peroxide forming potential as, for example, diethyl ether, etc.

### Decomposition Products

Carbon Monoxide and other toxic vapors.

### Hazardous Polymerization

Not expected to occur.

### Reactions with Air and Water

May react with oxygen to form peroxides.

## SECTION 11: TOXICOLOGICAL INFORMATION

### PRODUCT INFORMATION

#### Product Summary

No additional toxicology information is available for this material. (See Component Toxicity Information).

### COMPONENT INFORMATION

- *Dipropylene Glycol Monomethyl Ether* 34590-94-8

#### Acute Toxicity - Lethal Doses

LD50 (Oral)	Rat	5220 MG/KG BWT
LD50 (Skin)	Rabbit	13000 - 14000 MG/KG BWT

#### Irritation

**Skin** Repeated or prolonged contact may cause slight skin irritation. Repeated or prolonged contact with skin may cause dermatitis.

**Eye** May cause minor eye irritation. Effects of eye irritation are reversible.

#### Target Organ Effects

No significant hazards.

## SECTION 12: ECOLOGICAL INFORMATION

### PRODUCT INFORMATION

**ARCOSOLV® DPM****Ecotoxicity**

See component summary.

WGK

1 (Slightly water-endangering)

**Environmental Fate and Pathway**

See component summary.

**COMPONENT INFORMATION****Dipropylene Glycol Monomethyl Ether 34590-94-8****Ecotoxicity**

This material is expected to be non-hazardous to aquatic species.

Acute toxicity to fish

LC50 / 96 HOURS fathead minnow &gt; 10,000 mg/l

Acute toxicity to aquatic invertebrates

EC50 / 48 HOURS daphnia &gt; 5,000 mg/l

**Environmental Fate and Pathway**

This material is volatile and water soluble. It may enter soil and may contaminate water. This material is likely to evaporate from dry soil but not from water. It is not expected to adsorb onto soils or sediments.

Persistence and Degradability

Biodegradation: This material is expected to be readily biodegradable in acclimated systems. Theo. BOD (Closed Bottle Test) 77 - 84% (28 day)

Bioaccumulation: No relevant studies identified.

**SECTION 13: DISPOSAL CONSIDERATIONS**

Contaminated product, soil, or water may be hazardous waste due to potential combustibility. Landfill at permitted sites. Use registered transporters. Burn concentrated liquids. Assure emissions comply with applicable regulations. Dilute aqueous waste will biodegrade. Avoid overloading/poisoning plant biomass. Assure effluent complies with applicable regulations.

**SECTION 14: TRANSPORT INFORMATION****Special Requirements**

If you reformulate or further process this material, you should consider re-evaluation of the regulatory status of the components listed in the composition section of this sheet, based on final composition of your product.

**Proper Shipping Name**

NON\_REG

GLYCOL ETHERS, NOT ELSEWHERE CLASSIFIED (DIPROPYLENE  
GLYCOL METHYL ETHER)

**ARCOSOLV® DPM**

**SECTION 15: REGULATORY INFORMATION**

**Regulatory Status**

Country	Inventory	
Australia	AICS	X
Canada	DSL	X
Canada	NDSL	
China	IECS	X
European Union	EINECS	X
European Union	ELINCS	
European Union	NLP	
Japan	ENCS	X
Korea	ECL	X
Philippines	PICCS	X
United States	TSCA	X

**X = All components are included or are otherwise exempt from inclusion on this inventory.**

**C = Contact Lyondell/Equistar by e-mail at [product.safety@lyondell.com](mailto:product.safety@lyondell.com) or [product.safety@equistarchem.com](mailto:product.safety@equistarchem.com) for additional information.**

**Labeling Information**

**R-Phrases**

None

**S-Phrases**

None

**Other**

EU Labeling Information:  
 Not Regulated.

**SECTION 16: OTHER INFORMATION**

**Latest Revision(s)**

Revised Section(s): 3 9 11 15 Date of Revision: February 26 2004

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**Numerical Data Presentation**

The presentation of numerical data, such as that used for physical and chemical properties and toxicological values, is expressed using a comma (,) to separate digits into groups of three and a period (.) as the decimal marker. For example, 1,234.56 mg/kg = 1 234,56 mg/kg

**Language Translations**

The information presented in this document has been translated from English by a vendor Lyondell believes to be reliable. Lyondell and its vendor have made a good-faith effort to verify the accuracy of the translation, but assume no responsibility for any errors that may have occurred. Please refer to our web sites ([www.lyondell.com](http://www.lyondell.com) and [www.equistarchem.com](http://www.equistarchem.com)) for the original document written in English.

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# SAFETY DATA SHEET

## POLYPHASE P100



### 1. Identification of the substance/preparation and company/undertaking

**Product name** : POLYPHASE P100  
**Old trade name** : TROYSAN POLYPHASE P100 **Manufacturer** : Troy Corporation.  
 8 Vreeland Road  
 PO Box 955  
 Florham Park, NJ 07932-0955  
 U.S.A.  
 Phone: +1-973-443-4200  
 Fax: +1-973-443-0258

**Chemical product name** : 3-Iodo-2-propynyl butyl carbamate **Supplier** : TROY CHEMICAL COMPANY  
 BV  
 Uiverlaan 12e  
 PO Box 132  
 3145 XN Maassluis  
 The Netherlands  
 Phone: + 31 (0) 10 592-7494  
 Fax: +31 (0) 10 592-8877

**Synonyms** : IPBC  
**Chemical formula** : C<sub>8</sub>H<sub>12</sub>INO<sub>2</sub>  
**Emergency telephone number** : +32 (0) 14 58 45 45

Austria: Vergiftungsinformationszentrale, 01/406 43 43	Belgium: Centre anti-poison/Antigiftcentrum 070 245245	Czech Republic: 1.7 Nouzové telefonní číslo: Toxikologické informační středisko, Na Bojišti 1, 128 08 Praha 2: telefon ( 24 hodin/den) 224919293, 224915402, 224914575	Denmark: Giftinformation: +45 35 31 60 60	Estonia: 112	Finland: Not available.
France: Orfila 01 45 42 59 59	Germany: Giftnotrufzentrale Berlin: +49 030 - 192 40	Hungary: Not available.	Ireland: Not available.	Italy: Ospedale Niguarda Cà Granda, Milan 0266101029	Lithuania: Poison centre: 236 20 52
Netherlands: NVIC: Tel: 030-2748888	Norway: Norwegian poison information center: 22 59 13 00	Poland: Not available.	Slovakia: Toxikologické informačné centrum Limbova 5 833 05 Bratislava Tel. 02/5477 4166, 02/5477 4605	Slovenia: Not available.	Portugal: CIAV 808 250 143
Sweden: 112	Switzerland: Schweizerisches Toxikologisches Informationszentrum: +41 - 1- 145	Turkey: Not available.	United Kingdom (UK): NPIS 0870 600 6266	Spain: INSTITUTO NACIONAL DE TOXICOLOGIA 91 562 04 20	Greece: Children's hospital "P.Kyriakou", Thivon & Levadias 1, GR 11527, Goudi, Athens Tel. +30 210 7793 777

**Application:** : Fungicide for amongst others paints, wood preservation and metal-working fluids

### 2. Composition/information on ingredients

**Substance/preparation** : Substance

Chemical name*	CAS no.	%	EC number	Classification
3-iodo-2-propynyl butylcarbamate	55406-53-6	95 - 100	259-627-5	Xn; R20/22 Xi; R41 N; R50
See section 16 for the full text of the R-phrases declared above				

Occupational exposure limits, if available, are listed in section 8.

### 3. Hazards identification

The preparation is classified as dangerous according to Directive 1999/45/EC and its amendments.

**Classification** : Xn; R20/22  
 Xi; R41  
 N; R50

#### Effects and symptoms

**Human health hazards** : Harmful by inhalation and if swallowed.  
 Risk of serious damage to eyes.

**Environmental hazards** : Very toxic to aquatic organisms.

**Date of issue** : May 23, 2005.

Page: 1/5

EPA Export 26-07-2013:00:38:30

## 4. First-aid measures

### First-aid measures

- Inhalation** : If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
- Ingestion** : Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.
- Skin contact** : In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention.
- Eye contact** : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

## 5. Fire-fighting measures

### Extinguishing media

- Suitable** : SMALL FIRE: Use dry chemical powder.  
LARGE FIRE: Use water spray, fog or foam. Do not use water jet.  
Use an extinguishing agent suitable for the surrounding fire.

- Unusual fire/explosion hazards** : No specific hazard.
- Hazardous thermal composition products** : These products are carbon oxides (CO, CO<sub>2</sub>), nitrogen oxides (NO, NO<sub>2</sub> etc.), halogenated compounds.

- Special fire-fighting procedures** : This material is very toxic to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

- Protection of fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## 6. Accidental release measures

- Personal precautions** : Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (section 8).

- Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

- Methods for cleaning up** : If emergency personnel are unavailable, vacuum or carefully scoop up spilt material and place in an appropriate container for disposal. Avoid creating dusty conditions and prevent wind dispersal.

**Note:** see section 8 for personal protective equipment and section 13 for waste disposal.

## 7. Handling and storage

- Handling** : Do not ingest. Avoid contact with eyes. Keep container closed. Use only with adequate ventilation. Avoid breathing dust. Avoid contact of spilt material and runoff with soil and surface waterways. Wash thoroughly after handling.

- Storage** : Keep container tightly closed. Keep container in a cool, well-ventilated area. Store between 0 to 32°C (32 to 89.6°F).

### Packaging materials

- Recommended use** : Use original container.

## 8. Exposure controls/personal protection

- Engineering measures** : Use process enclosures, local exhaust ventilation or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fumes or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling compounds and before eating, smoking and using the lavatory and at the end of the day.

- Occupational exposure limits** : Not available.

### Personal protective equipment

- Respiratory system** : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

- Skin and body** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. EU Standard for gloves: EN374

Eyes

: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

## 9. Physical and chemical properties

Physical state	: Solid. (Powder.)
Colour	: White.
Odour	: Characteristic.
pH	: Not available.
Boiling point	: Decomposes.
Melting point	: 65 to 68°C (149 to 154.4°F)
Flash point	: Not available.
Explosive properties	: Non-explosive
Oxidising properties	: Not an oxidizer
Vapour pressure	: 2e-007 kPa (2e-006 mm Hg) (at 20°C)
Density	: 1.51 to 1.57 (25°C / 77°F)
Solubility	: Partially soluble in cold water. Very slightly soluble in hot water.
Octanol/water partition coefficient	: The product is more soluble in octanol; log(octanol/water) = 2.81
Evaporation rate (butyl acetate = 1)	: <1

## 10. Stability and reactivity

Stability	: The product is stable.
Materials to avoid	: Reactive with acids, alkalis.
Hazardous decomposition products	: These products are carbon oxides (CO, CO <sub>2</sub> ), nitrogen oxides (NO, NO <sub>2</sub> etc.), halogenated compounds.

## 11. Toxicological information

### Acute toxicity

<u>Ingredient name</u>	<u>Test</u>	<u>Result</u>	<u>Route</u>	<u>Species</u>
3-iodo-2-propynyl butyl carbamate	LD50	1470 mg/kg	Oral	Rat
	LD50	>2000 mg/kg	Dermal	Rabbit

### Local effects

Skin irritation	: No known significant effects or critical hazards.
Eye irritation	: Severely irritating to eyes.
Sensitisation	: Non-sensitiser to skin.
Inhalation	: Harmful by inhalation.
Ingestion	: Harmful if swallowed.
Carcinogenic effects	: No known significant effects or critical hazards.
Mutagenic effects	: No known significant effects or critical hazards.
Teratogenic effects	: No known significant effects or critical hazards.
Developmental toxicity	: No known significant effects or critical hazards.

## 12. Ecological information

### Ecotoxicity data

<u>Ingredient name</u>	<u>Species</u>	<u>Period</u>	<u>Result</u>
3-iodo-2-propynyl butyl carbamate	Bluegill. (LC50)	96 hour/hours	0.23 mg/l
	daphnia (EC50)	48 hour/hours	0.696 mg/l

### Persistence/degradability

<u>Ingredient name</u>	<u>Aquatic half-life</u>	<u>Photolysis</u>	<u>Biodegradability</u>
3-iodo-2-propynyl butyl carbamate	-	-	Readily

### Bioaccumulative potential

<u>Ingredient name</u>	<u>LogP<sub>ow</sub></u>	<u>BCF</u>	<u>Potential</u>
3-iodo-2-propynyl butyl carbamate	2.81	-	low

Other adverse effects : Very toxic to aquatic organisms.

Date of issue : May 23, 2005.




### 13. Disposal considerations

<b>Methods of disposal ; Waste residues information ; Contaminated packaging</b>	: Waste must be disposed of in accordance with federal, state and local environmental control regulations.
<b>Waste classification</b>	: Not applicable.
<b>European waste catalogue (EWC)</b>	: 030205
<b>Hazardous waste</b>	: Yes.

### 14. Transport information


#### International transport regulations

<b>UN number</b>	<b>Proper shipping name</b>
UN3077	Environmentally hazardous substance, solid, n.o.s. (3-Iodo-2-propynyl butyl carbamate)

Regulatory information	Class	Packing group	Label	Additional information
ADR/RID Class	9 M7	III		<b>CEFIC Tremcard</b> 90GM7-III TRANSPORT EMERGENCY CARD (Road)  90GM7-III
IMDG Class	9	III		<b>Emergency schedules (EmS)</b> F-A, S-F  <b>Marine pollutant</b> Marine pollutant (P)
IATA-DGR Class	9	III		

### 15. Regulatory information

#### EU regulations

<b>Hazard symbol/symbols</b>	: 
	Harmful, Dangerous for the environment.
<b>Risk phrases</b>	: R20/22- Harmful by inhalation and if swallowed. R41- Risk of serious damage to eyes. R50- Very toxic to aquatic organisms.
<b>Safety phrases</b>	: S22- Do not breathe dust. S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S36/37/39- Wear suitable protective clothing, gloves and eye/face protection. S60- This material and its container must be disposed of as hazardous waste.
<b>Contains</b>	: 3-iodo-2-propynyl butylcarbamate 259-627-5
<b>Product use</b>	: Classification and labelling have been performed according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and the intended use. - Industrial applications.
<b>Additional warning phrases</b>	: This product has been classified on the basis of its known properties, to the best of our knowledge, taking into account the form by which it is delivered to our customers. However, we would like to draw the attention of the reader that its toxicity by inhalation might be enhanced if the particle size of the product is reduced to a respirable size.
<b>Germany Hazard class for water</b>	: 2 (Annex 2 VwVwS)

Date of issue : May 23, 2005.

## POLYPHASE P100

### Product registration number

Denmark : 350343

## 16. Other information

**Full text of R phrases referred to in sections 2 and 3 - Europe** : R20/22- Harmful by inhalation and if swallowed.  
R41- Risk of serious damage to eyes.  
R50- Very toxic to aquatic organisms.

**Full text of classifications referred to in sections 2 and 3 - Europe** : Xn - Harmful  
Xi - Irritant  
N - Dangerous for the environment

### History

**Date of printing** : May 26, 2005.  
**Date of issue** : May 23, 2005.  
**Date of previous issue** : December 08, 2004.  
**Version** : 3.03  
**Prepared by** : Not available.

### Notice to reader

*Classification and labelling have been performed according to EU directives 1999/45/EC, 2001/58/EC, including amendments and the intended use.*

*To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.*

*Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.*

Version 3.03

2195



# SAFETY DATA SHEET

**IMBENTIN-C/91/080 90%**

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/ UNDERTAKING

Chemical characterization      Oxalcohol C9/C11 with 8 Mol EO 90%

Product code                      27534.00

Supplier                              Dr. W. Kolb AG  
    Chemische Fabrik  
    Herr A. Kühne  
    Maienbrunnenstrasse 1  
    CH-8908 Hedingen  
    Switzerland

Emergency telephone number +41(0) 1 761 46 46

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

CAS 68-131-39-5

## 3. HAZARDS IDENTIFICATION

Irritating to eyes. Irritating to skin. Harmful if swallowed.

## 4. FIRST AID MEASURES

General advice                      No hazards which require special first aid measures.

Inhalation                              Not hazardous by inhalation.

Skin contact                            Wash with water and soap as a precaution.

Eye contact                              No special measures required.

Ingestion                                No special measures required.

## 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media      No special measures required.

Extinguishing media which must not be used for safety reasons      None.

Specific hazards                        None.

Special protective equipment for firefighters      Standard procedure for chemical fires.

Specific methods                        No special measures required.

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## 6. ACCIDENTAL RELEASE MEASURES

Personal precautions No special measures required.

Environmental precautions Prevent product from entering drains.

Methods for cleaning up Clean up promptly by sweeping or vacuum.

## 7. HANDLING AND STORAGE

Handling No special technical protective measures required.

Storage No special storage conditions required.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures to reduce exposure Avoid contact with the skin and the eyes.

Personal protection equipment

Respiratory protection No personal respiratory protective equipment normally required.

Eye protection Safety glasses.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Aspect Liquid (30°C) Clear to slightly turbid.

Odour Very faint

Physical and chemical properties

pH	5-7.
Flash point	approx. 180 °C.
Relative density (50°C)	1.016/cm <sup>3</sup> .
Stock point	5 °C.

## 10. STABILITY AND REACTIVITY

Stability Stable at normal conditions.

Materials to avoid According to experience not expected.

Hazardous decomposition products None reasonably foreseeable.

## 11. TOXICOLOGICAL INFORMATION

Acute toxicity Negligible.

Local effects Negligible.

Long term toxicity None.

Sensitization None.





## Material Safety Data Sheet

# TEBUCONAZOLE TÉCNICO

Page: (1 of 8)

### 1. PRODUCT AND COMPANY IDENTIFICATION

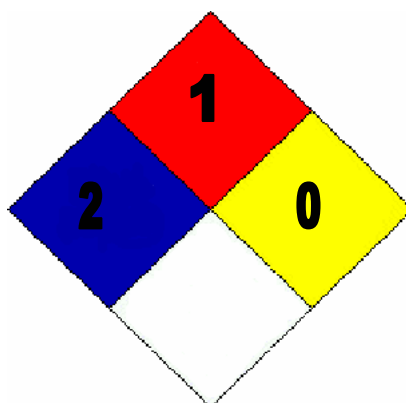
- Product Name: TEBUCONAZOLE TÉCNICO
- Use: Systemic Fungicide (Triazol)
- Manufacturer: MILENIA AGRO CIÊNCIAS S.A.  
Address: Rua Pedro Antonio Souza, 400 – Londrina -PR  
E-mail: [milenia@milenia.com.br](mailto:milenia@milenia.com.br) <http://www.milenia.com.br>
- Emergency Number: 0800 –400 75 05 – Londrina - PR  
Fax: (0XX43) 3371-9011

### 2. COMPOSITION / INFORMATION ON INGREDIENTS

- Chemical Nature: This product is a pure substance.

<u>Compnents</u>	<u>CAS Number</u>	<u>Concentration %</u>	<u>Molecular Formula</u>
(RS)-1-p-chlorophenyl-4,4-dimethyl-3-(1H-1,2,4 triazol-1-ylmethyl)3 pentanol	107534-96-3	960g/kg	C <sub>16</sub> H <sub>22</sub> ClN <sub>3</sub> O

- Synonyms: Tebuconazole
- Ingredients or impurities contributing to hazard: Impurities have no toxicological relevance.
- NFPA labeling:



### 3. HAZARDS IDENTIFICATION

- Main hazards: the product may be toxic to men and to the environment if not used as recommended.



## Material Safety Data Sheet

# TEBUCONAZOLE TÉCNICO

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### ● Product Effects:

Adverse health effects to man: It may cause skin, eyes and respiratory irritation.

Environmental Effects: It is toxic to aquatic microorganisms, algae, fish, bees and fauna.

Specific hazards: there are no other hazards related to the product.

● Main Symptoms: high concentration inhalation may cause nasal, throat and respiratory tracts irritation. The ingestion of large amounts may cause abdominal discomfort or pain, nausea, vomiting, dizziness and blurred vision.

## 4. FIRST AID MEASURES

● First Aid Measures: remove to fresh air. Remove all contaminated clothing and wash the affected parts of the body thoroughly with plenty of water and soap during 30 minutes. If victim is unconscious and not breathing, apply artificial respiration or oxygenation. Take victim to the nearest medical care center, with this sheet.

● Inhalation: remove to fresh air. If stops breathing, apply artificial respiration. If breathing is difficult, immediately call a physician.

● Skin contact: immediately wash with water and soap during 30 minutes after removing contaminated clothing. In case of effects/symptoms, call a physician. Wash the contaminated clothing prior to reuse them and dispose contaminated shoes.

● Eyes contact: immediately flush with running water for at least 30 minutes. Call a physician.

● Ingestion: do not induce vomiting, but do not stop if it happens spontaneously. Immediately call a physician.

● Actions to be avoided: do not apply mouth to mouth respiration if the patient has swollen the product. Give artificial respiration.

● Protection for the first aid givers: avoid skin or inhalation contact with the product during the process.

● Notes for the physician: no specific antidote is available. If large amounts was swallowed, gastric emptying procedured as gastric lavage may be performed, taking great care to avoid pulmonary aspiration due to the risk of chemical pneumonite. Activated charcoal and saline laxatives may be administered due to probable active ingredients adsorption to activated charcoal. Symptomatic treatment must include, specially, support measures as the correction of hydro electrolytic and metabolic disorders, as well as respiratory aid. The management of hepatic and renal functions must be kept. If in eye, rinse with physiological saline followed by occlusion and lead to ophthalmic evaluation.



## Material Safety Data Sheet

# TEBUCONAZOLE TÉCNICO

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### 5. FIRE FIGHTING MEASURES

- Extinguishing media: foam, CO<sub>2</sub>, dry chemical and, in last case, water spray.
- Special Procedures: wear appropriate PPE (personal protective equipment) to avoid direct contact with the product. PVC overall, rubber gloves and rubber boots are recommended. Wear self-contained breathing apparatus.

### 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions: wear waterproof overalls, safety goggles, rubber boots and nitril rubber or PVC gloves. Respiratory protection must be used depending on the concentrations in the environment or on the extension of the spill/release. In this case, choose self-contained breathing apparatus.

Removal of ignition sources: stop electric energy and turn off the sources that may produce sparks. Remove all the material that may start a fire (e.g. spilled diesel oil).

Dust control: Isolate and signal the contaminated area. Cover the spill with plastic sheet or spray water on the powder.

Inhalation, skin, mucous membrane and eyes contact prevention: wear the garments and accessories described above.

- Environmental precautions : avoid contamination of surface waters sealing the entrance of the rain water galleries (culverts). Do not allow the residues of the released product reach water collections.
- Cleaning methods: stop and collect the spill. Put the residues into a recipient for disposal according to the local regulations. Clean, preferably with a detergent; avoid using solvents.
- Secondary hazards prevention: do not allow the product contaminate creeks, lakes, water fountains, wells, sewers, pluvial sewers and effluents.

### 7. HANDLING AND STORAGE

- Handling:
  - Technical measures: wear PPE as described on item 8. Keep people, and specially children and domestic animals away from the place of work. Do not have direct contact with the product.

Workers exposure prevention: wear PPE as described on item 8. Do not eat, drink or smoke during product handling. When opening a packaging, do it in a way to avoid leaks. Do not use damaged/defective personal protective and application equipment. Do not manipulate and/or carry damaged packaging.



## Material Safety Data Sheet

# TEBUCONAZOLE TÉCNICO

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Safe handling precautions : wear PPE as described on item 8.

● Guidance to a safe handling: wear PPE as described on item 8. Handle the product with appropriate local exhaustion or in a well ventilated area. If handled in open environments, do it in the same direction as of wind. In case of intoxication symptoms, immediately stop the work and proceed as described on item 4 of this sheet.

● Storage

● Appropriate technical measures: keep the product in its original recipient. Keep eventual residues of the product in its original packaging, appropriately closed.

● Storage conditions

Appropriate: keep the recipient appropriately closed, at room temperature and protected from light. Keep it in a duly identified, exclusive place for toxic products. Lock the place to avoid the access of unauthorized persons and children.

Avoid: humid places and places with sources of heat.

Incompatible products and materials: do not store with food, beverages, including those intended for animal use.

● Safe materials for packaging

Recommended: product already packed in an appropriate packaging.

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

● Engineering controls: whenever applicable use ventilators, air circulators, exhausters appropriate to gases and vapors; provide the work area with appropriate ventilation. The operator must always use breathing protective equipment, even when there is a good natural or mechanical ventilation.

● Specific control parameters:

Occupational exposure limits:

Common name	Exp. Limit	Type	Effect	References
Tebuconazole	None established	TLV/TWA	---	NR 15, 1994 and ACGIH, 2002

Biological indicators:

Common name	Biological Limit	Type	Notes	References
Tebuconazole	None established	BEI	---	ACGIH, 2002



## Material Safety Data Sheet

# TEBUCONAZOLE TÉCNICO

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• Recommended monitoring procedure: perform tests of hepatic and renal functions, product detection in collected vomiting or washed skin. Check the product dosage in the blood.

• Personal protective equipment:

Breathing protection: wear masks with chemical filter for organic vapors, acid gases and pesticides combined with mechanical filter for particles.

Hands protection: wear nitril rubber, PVC or other waterproof material gloves.

Eye protection: wear safety goggles for chemical products.

Skin and body protection: wear long sleeve waterproof or hydro-repellent overalls and PVC boots.

Special Precautions: keep PPE duly clean and in adequate use conditions, performing inspections, sanitization and possible maintenance and/or substitution of damaged/defective equipment and parts from time to time.

Hygiene measures: take shower and change the clothing after using the product. Wash contaminated clothing separately, avoiding its contact with another personal use tools.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

- Form: crystals
- Color: white
- Odor: characteristic
- pH: not determined
- Boiling point: not applicable as it is solid
- Melting point: 102.4°C
- Flash point: not applicable
- Upper/lower explosion limits: the product is not explosive
- Density: 1.25 (26°C)- Pesticide Man.
- Solubility: at 20°C; in water 0.036 g/l; in n-hexane < 0.1 g/L, in dichloromethane > 200 g/L; 2-propanol, toluene 50-100 g/L.
  
- Partitioning coefficient oil/water:  $K_{ow}$  Log P = 3.7 (20°C)

## 10. STABILITY AND REACTIVITY

- Chemical stability: the product is stable under normal temperature and storage conditions.
- Hazardous reactions: there is no hazardous reaction known.
- Hazardous decomposition products: fire produces carbon monoxide, carbon dioxide, nitrous oxide, chlorides and other non-identifiable organic substances.



## Material Safety Data Sheet

# TEBUCONAZOLE TÉCNICO

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### 11. TOXICOLOGICAL INFORMATION

● Acute toxicity:

Oral LD50 in rats: > 2,000 mg/kg

Dermal LD50 in rats: > 2,000 mg/kg

Inhaling LC50: > 2.04 mg/L

Local Effects:

Skin irritation in rabbits: the product is considered none irritating.

Eye irritation rabbits: the product is considered none irritating

● Chronic toxicity:

Mutagenicity: the product is considered non-mutagenic.

Carcinogenicity: the active ingredient is considered non-carcinogenic.

Teratogenicity: the active ingredient is considered non-teratogenic.

Reproductive effects: the active ingredient is considered as having no reproductive effect.

### 12. ECOLOGICAL INFORMATION

● Environmental, behavioral effects and impact of the product:

Persistence/Degradability: under field conditions, the active ingredient degraded much more rapidly, and did not accumulate in long-term studies.

Bioaccumulation: the active ingredient was classified as none bioaccumulative since the metabolites detected in wheat, peanut and grapes were mainly triazole containing compounds of no toxicological relevance.

Ecotoxicological information:

Toxicity to fish: LC<sub>50</sub> (96 hs) = 7.48 mg/L

Toxicity to birds: LD<sub>50</sub> > 2,000 mg/Kg

Toxicity to aquatic microorganisms: EC<sub>50</sub> (48 hs) = 10.60 mg/L

Toxicity to algae: (*Chlorella vulgaris*) EC<sub>50</sub> (96 hs) = 1.47 mg/L

Toxicity to microcrustaceous: (*Daphnia spp*): EC<sub>50</sub> (48 hs) = 10.60 mg/L

Toxicity to bees: LD<sub>50</sub> (24 hs) = 3.47 µg/bee

Toxicity to fauna: (*Bob white*) LD<sub>50</sub> = 4,488 mg/kg a.i.



## Material Safety Data Sheet

# TEBUCONAZOLE TÉCNICO

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### 13. DISPOSAL CONSIDERATIONS

● Treatment and disposal methods:

Product: inactivate the product through incineration in ovens designed to this kind of operation, equipped with chambers to wash effluent gases that are according to the competent authority regulations.

Product residues: keep eventual residues of the product and/or products with expiration date expired in their original packaging, duly closed.

Used packaging: the empty packaging must be stored in a covered, ventilated place, protected from the rain and with waterproof floor, as well as contention dikes. Wear gloves when handling these packaging. The final destination of empty packaging can only be done by registering Company or user company or companies legally authorized by the competent authorities. The reuse of the empty packaging is forbidden for the user. They may be recycled if appropriate legislation is obeyed.

### 14. TRANSPORTATION INFORMATION

● National and international regulations:

**THE PRODUCT IS NOT CLASSIFIED AS DANGEROUS GOODS.**

### 15. REGULATORY INFORMATION

● Regulations:

● Information on risk and safety according to the label:

Avoid eyes, skin or clothing contact with the product.

Avoid inhale vapors or mixtures.

Handle the product only under appropriate ventilation

Store in an appropriate packaging, duly closed.

Immediately remove and wash contaminated clothing.

Do not eat, drink or smoke during product handling.

When opening a packaging, do it in a way to avoid leaks.

Do not use damaged and/or defective PPE and applying equipment.

Do not wash packaging in lakes, fountains, rivers and other water courses. Avoid water contamination.

Discard the packaging and residues of the product correctly.



## Material Safety Data Sheet

# TEBUCONAZOLE TÉCNICO

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### 16. OTHER INFORMATION

"This Sheet was elaborated by [TOXICLIN® Consultoria e Serviços Médicos](#), from the data provided by the registering Company. The information of this MSDS represents the present data and reflect, precisely, our best knowledge for the appropriate handling of this product according to the specific application in the label and/or literature. Any other use of the product that are not recommended is a responsibility of the user".

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# LINOSA Ltd.

(Speciality Chemicals)

Page 1

## SAFETY DATA SHEET

TRADE NAME **LINOSOPOL KO**

### IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY

Supplier **Linosa Ltd.**  
**ICG House Station Approach**  
**Oldfield lane North**  
**Greenford Middx. UB6 0AL**  
**England**

Tel 44 (0) 181 575 7070  
 Fax 44 (0) 181 566 6441  
 E-Mail [Linosa@btinternet.com](mailto:Linosa@btinternet.com)

### 2 COMPOSITION/INFORMATION ON THE COMPONENTS

Product Chemical Family **Anionic surfactant**

### 3 HAZARD IDENTIFICATION

Main Hazards: **Irritating to eyes and skin**

### 4 FIRST AID MEASURES

First Aid - Eyes: **Immediately flood the eye with plenty of water for at least 10 minutes, holding the eye open. Obtain medical attention.**

First Aid - Skin: **Wash skin with soap and water.**

First Aid - Ingestion: **Wash out mouth with water. Obtain medical attention.**

First Aid - Inhalation: **Remove from exposure. Keep warm and rest. Seek medical attention if feeling unwell.**

### 5 FIRE FIGHTING MEASURES

Extinguishing Media: **Water spray; foam, dry powder, high pressure inert gas such as carbon dioxide jet.**

Unsuitable Extinguishing Media: **Not applicable**

Specific Hazards of Product: **Hazardous decomposition products: sulphur oxides and carbon oxides**

Protective Equipment for Fire-fighting: **Wear full protective clothing and self-contained breathing apparatus**

**LINOSA Ltd.**

(Speciality Chemicals)

Page 2

Safety Data Sheet

LINOSOPOL KO

**6 ACCIDENTAL RELEASE MEASURES**

<b>Personal Precautions:</b>	Wear appropriate protective clothing.
<b>Environmental Precautions</b>	Try to prevent the material from entering drains or water courses. Advise authorities if spillage has entered water course or sewer has contaminated soil or vegetation.
<b>Spillage Control:</b>	Contain and absorb using earth, sand or other inert material. Transfer into suitable containers for recovery or disposal. Small spillages may be flushed with large amounts of water.

**7 HANDLING AND STORAGE**

<b>Handling:</b>	Keep away from sources of ignition. No smoking. Avoid contact with eyes and skin.
<b>Storage:</b>	Use only explosion proof equipment. Store at ambient temperatures. Away from oxidising agents and sources of ignition. Keep containers closed when not in use to avoid evaporation. Use only explosion proof equipment.

**8 EXPOSURE CONTROL/PERSONAL PROTECTION**

<b>Exposure Limits:</b>	No data available
<b>Engineering Measures:</b>	Ensure adequate ventilation especially in confined areas
<b>Personal Protection Equipment:</b>	Safety glasses, impervious gloves

**9 PHYSICAL AND CHEMICAL PROPERTIES**

<b>Physical State:</b>	Liquid
<b>Appearance:</b>	Clear pale amber
<b>Odour:</b>	Faint
<b>Melt Point:</b>	Below 0°C
<b>Solubility in Water:</b>	Dispersible
<b>Boiling Point:</b>	Above 100°C
<b>pH:</b>	5.0 - 8.0

**10 STABILITY AND REACTIVITY**

<b>Stability:</b>	Stable under normal conditions.
<b>Conditions to Avoid:</b>	High temperatures above 100°C

**LINOSA Ltd.**

(Speciality Chemicals)

Page 3

## Safety Data Sheet

## LINOSOPOL KO

**Materials to Avoid:** Oxidising agents.  
**Hazardous Decomposition:** After evaporation of water combustion will generate.  
**Products:** Oxides of sulphur and carbon.

**11 TOXICOLOGICAL INFORMATION**

**Acute Toxicity:** May cause mild irritation of eye and skin  
**Chronic Toxicity:** No data

**12 ECOLOGICAL INFORMATION**

**Persistence/Degradability:** Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

**13 DISPOSAL CONSIDERATIONS**

**Product Disposal:** Dispose of in accordance with all applicable local and national regulations.  
**Container Disposal:** Containers should be cleaned by appropriate methods and then re-used or disposed of by landfill or incineration as appropriate.

**14 TRANSPORT INFORMATION**

Not Classified

**15 REGULATORY INFORMATION**

**R36/38** Irritating to eyes and skin  
**S26** In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
**S28** After contact with skin, wash immediately with plenty of water.  
**S37** Wear suitable gloves.  
**S39** Wear eye and face protection. Irritating to eyes and skin.

**16 OTHER INFORMATION**

**MSDS data revised:** June 1998

## MATERIAL SAFETY DATA

**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY UNDERTAKING****LINOSA LTD.**

(Speciality Chemicals)

ICG House Station Approach

Oldfield Lane North

Greenford Middlesex UB6 0AL

England

Tel No. +44 (0) 208 575 7070 Fax +44 (0) 208 566 6441

E-mail [linosa@bxcljct.com](mailto:linosa@bxcljct.com)Trade name **LINOSA LPC**

Chemical description Complex ethylene oxide-propylene oxide copolymer

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

This product is to be considered as a substance according to EU-legislation.

Other information All components are registered in EINECS (polymer).

**3. HAZARDS IDENTIFICATION**

Not classified as dangerous according to EEC Dangerous Substance Directive and Dangerous Preparation Directive.

**4. FIRST AID MEASURES****Inhalation** Not likely to occur.**Skin** Wash the skin with soap and water.**Eyes** Immediately rinse with water. If symptoms persist, seek medical advice.**Ingestion** Only when conscious, rinse mouth, give plenty of water to drink (approx. 500 ml). Contact physician if larger quantity has been swallowed (show this Safety Data Sheet).**5. FIRE FIGHTING MEASURES****Extinguishing media** Water spray, fog or mist, foam, powder, carbon dioxide.**Unusual fire hazards** Non-flammable. If involved in a fire it will support combustion. Do not breathe fumes.**Hazardous combustion products** No typical hazardous decomposition products known.**6. ACCIDENTAL RELEASE MEASURES****Personal precautions** For personal protection see Section 8.**Environmental precautions** Prevent discharge of larger quantities to drain or water courses.**Methods for cleaning up** Larger spill: Contain spill with inert material. Absorb in vermiculite, dry sand or earth.

Place in container for disposal according to local regulations. Small quantities may be flushed to drains with plenty of water.

**7. HANDLING AND STORAGE****Handling** The usual precautions for handling chemicals should be observed.**Storage** No specific storage precautions noted. For further information see product information sheet.**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Exposure limits****Comments** No exposure limits have been established.**Engineering controls** The usual precautions for handling chemicals should be observed.**Personal protection****Hand** Chemical resistant gloves required for prolonged or repeated contact. Use protective gloves made of: Neoprene or nitrile.

# MATERIAL SAFETY DATA

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance Clear liquid  
Colour Colourless.  
Boiling point/range (°C) > 200 Pressure (kPa)  
Freezing point 8°C  
Flash point (°C) > 200 Method  
Lower explosion limit not determined  
Upper explosion limit not determined  
Density 1.04 temperature (°C) 20  
Viscosity 800 centistokes at 20° C  
pH value 7.0 typically (1% aqueous solution)  
Solubility in water Soluble.

## 10. STABILITY AND REACTIVITY

Stability Normally stable.  
Hazardous decomposition product  
Combustion can produce oxides of carbon.

## 11. TOXICOLOGICAL INFORMATION

Toxicological data  
Health effects  
Respiratory Not likely to occur.  
Skin Prolonged or frequent contact may give transient redness and skin cracking.  
Eyes Slightly irritating.  
Ingestion Low acute toxicity.  
Toxicological data  
LD50, oral rat > 2000 mg/kg <sup>1)</sup>  
Toxicological information <sup>1)</sup> The value is estimated from tests on similar products.

## 12. ECOLOGICAL INFORMATION

Degradation Not readily biodegradable. (The data are estimated from tests on similar products.)  
Other information <sup>1)</sup> The data are estimated from tests on similar products.

## 13. DISPOSAL CONSIDERATIONS

Disposal methods Incineration is recommended. Dispose of in accordance with local authority requirements.

## 14. TRANSPORT INFORMATION

Land transport  
Sea transport  
Air transport  
Other information Not dangerous goods according to international transport regulations.

## 15. REGULATORY INFORMATION

EU directive Safety Data Sheet according to EC-directive 2001/58/EC  
Other information Not classified as dangerous according to EEC Dangerous Substance Directive and Dangerous Preparation Directive.

## 16. OTHER INFORMATION

This information only concerns the above mentioned product as supplied and may not be valid if used with other product(s) or in any process.  
It remains the user's own responsibility to make sure that the information is appropriate and complete for his special use of this product. Under no circumstances shall we be liable for any economic consequential (including lost profit or savings) or incidental damages even if we are informed of their possibility exemplary or punitive damages regardless of the form or action whether in contract or tort including our sole or joint negligence and strict liability.

MATERIAL SAFETY DATA  
LINOSA FAP 208

# LINOSA LTD.

(Speciality Chemicals)  
ICG House Station Approach  
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Greenford Middlesex UB6 0AL  
England  
Tel +44 (0) 208 575 7070 Fax +44 (0) 208 566 6441  
E-mail [linosa@btclick.com](mailto:linosa@btclick.com)

## 1. IDENTIFICATION OF THE SUBSTANCE

### Product details

Trade Name                      LINOSA FAP208  
Use                                      Surface active substance

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

Isotridecanol,ethoxylated (>5-20 EO)  
Content: =80.00%  
CAS No: 69011-36-5      Index-No.                      EG-Nr  
Symbols: Xn                                      R-phrases R22-R41

## 3. HAZARD IDENTIFICATION

### Identification of the risks

Harmful if swallowed.  
Risk of serious damage to eyes.

## 4. FIRST AID MEASURES

General advice	Take off all contaminated clothing immediately. If you feel unwell, seek medical advice (show the label where possible.)
Skin contact:	Wash off with plenty of water.
Eye Contact:	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician immediately.
Ingestion:	Do not induce vomiting.

## 5. FIRE FIGHTING MEASURES

Suitable extinguishing media:	Water spray, dry powder, foam, carbon dioxide (CO <sub>2</sub> )
Further information	Standard procedure for chemical fires.

## MATERIAL SAFETY DATA LINOSA FAP 208

### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Use personal protective equipment.  
Environmental precautions: Avoid subsoil penetration. Do not flush into surface water or sanitary sewer system  
Clean up method: Absorb or soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust.)

### 7. HANDLING AND STORAGE

Safe handling advice: Wear personal protective equipment. Avoid contact with skin and eyes  
Advice on protection against Fire and explosion: No special protective measures against fire required.

---

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### PERSONAL PROTECTIVE EQUIPMENT

Hand protection: Gloves suitable for permanent contact  
Material: Butyl-rubber.  
Break through time:  $\geq 480$  min.  
Material thickness:  $\geq 0.7$  mm  
  
Gloves suitable for splash protection  
Material: Nitrile rubber/nitrile latex  
Break through time:  $\geq 30$  min.  
Material thickness:  $\geq 0.4$  mm

Eye protection: Tightly fitting safety goggles.

Protective measures: Avoid contact with eyes. Wear suitable gloves and eye/face protection.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

Form: Liquid @20°C  
Colour: Clear liquid  
Odour: Mild  
pH: 5 – 7; 20 g/l; 20°C  
Boiling point/range: not applicable  
Flash point: > 180°C; DIN 51376  
Ignition temperature: ca. 390°C; DIN 51794  
Vapour pressure: not applicable  
Water Solubility: 20°C completely miscible

### 10 STABILITY AND REACTIVITY

Hazard decomposition: No decomposition if stored normally.  
products

MATERIAL SAFETY DATA  
LINOSA FAP 208

**11. TOXICOLOGICAL INFORMATION**

Acute oral toxicity LD50 rat: >200-2000 mg/kg (literature value)  
Acute dermal toxicity LD 50 rat: > 2000 mg/kg (literature value)  
Skin irritation Rabbit: not irritating (literature value)  
Eye irritation: Risk of serious damage to eyes.  
Sensitization Not sensitizing (literature value)  
Genotoxicity in vitro. Not mutagenic (literature value)

**12. ECOLOGICAL INFORMATION**

Biodegradability Alcohols branched/linear, ethoxylated:  
Readily biodegradable; >70%; 28 d; OECD guidelines 301 A;  
(new version) (literature value)  
Alcohols branched/linear, ethoxylated:  
Readily biodegradable; > 60%; 28 d; OECD guideline 301 B;  
(literature value)

**ECOTOXICITY EFFECTS**

Toxicity to fish Alcohols branched/linear, ethoxylated:  
LC50 Cyprinus carpio: 1-10 mg/l; 96 h; OECD Test guidelines  
203, Paris 1981; (literature value)  
Toxicity to daphnia Alcohols branched/linear, ethoxylated.  
EC50 Daphnia magna: 1-10 mg/l; 48 h; OECD Test guidelines  
202, Paris 1981; (literature value)  
Toxicity to algae Alcohols branched/linear, ethoxylated.  
EC50 scenedesmus subspicatus: 1-10 mg/l; 72 h; OECD Test guidelines  
201, Paris, 1981; (literature value)

**13. DISPOSAL CONSIDERATIONS**

Product: Can be incinerated when in compliance with local regulations  
Waste code of the EU: A waste code in accordance with the European Waste Catalogue  
(EWC) may not be assigned to this product since it admits of a  
classification only when the consumer uses it for some  
purpose. In agreement with the waste code must be determined  
regional waste disposal authority or company

**14. TRANSPORT INFORMATION**

Further information: Not classified as dangerous in the meaning of transport.

**15. REGULATORY INFORMATION**

**Labelling**

Labelling according to EEC According to Directive 67/548/EEC  
Directive

Symbols: Xn: Harmful  
R Phrases: R22: Harmful if swallowed.  
R41: Risk of serious damage to eyes.  
S Phrases: S25: Avoid contact with the eyes.  
S26: In case of contact with eyes, rinse immediately with plenty  
of water and seek medical advice.  
S39: Wear eye/face protection.  
Additional advice According to the CESIO recommendation.

Hazardous components ISOTRIDECANOL, ETHOXYLATED (>5-20 EO)  
Which must be listed on the  
Label.

MATERIAL SAFETY DATA  
LINOSA FAP 208

NATIONAL LEGISLATION

Occupational restrictions:

Employment restrictions for children and young workers in accordance with Directive 94/33/EC and the respective national provisions are to be observed. Employment restrictions for pregnant workers, workers who have recently given birth and nursing mothers in accordance with Directive 92/85 EEC and the respective national provisions are to be observed.

16. OTHER INFORMATION/LEGAL DISCLAIMER

Text of R-phrases mentioned in section 2

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R22	Harmful if swallowed.
R41	Risk of serious damage to eyes.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or any process, unless specified in the text. This company shall not be held liable for any damage resulting from handling or from contact with the above product.

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# Polybor®

## Safety Data Sheet

DATE OF ISSUE October 2001  
Superscdcs March 1996 Version

### 1 Chemical product and company identification

Product name:	Polybor	ISSUED BY:	Borax Europe Limited
Grades:	Technical		1A Guildford Business Park
Product use:	Flame retardant; Industrial manufacturing		Guildford, GU2 8XG
			United Kingdom
Chemical formula:	$\text{Na}_2\text{B}_4\text{O}_{13} \cdot 4\text{H}_2\text{O}$		
Chemical name/synonyms:	Disodium octaborate tetrahydrate		
Chemical family:	Inorganic Borates		
CAS registry number:	12280-03-4	EMERGENCY PHONE NUMBER	(44) 1483 242000

(Refer to section 15 -- 'Chemical inventory listing')

### 2 Composition/information on ingredients

This product contains greater than 98.0 percent (%) disodium octaborate tetrahydrate  $\text{Na}_2\text{B}_4\text{O}_{13} \cdot 4\text{H}_2\text{O}$ . Disodium octaborate tetrahydrate is not classified as dangerous under the EC Directive 67/548/EEC and subsequent amendments.

### 3 Hazard identification

**Emergency overview**  
*Polybor* is a white odourless, powdered substance that is not flammable, combustible, or explosive, and has low acute oral and dermal toxicity.

**Potential ecological effects**  
Large amounts of *Polybor* can be harmful to plants and other species. Therefore, releases to the environment should be minimised.

**Potential health effects**  
Inhalation is the most significant route of exposure in occupational and other settings. Dermal exposure is not usually a concern because *Polybor* is poorly absorbed through intact skin.

**Inhalation:** Occasional mild irritation effects to nose and throat may occur from inhalation of *Polybor* dusts at levels greater than 10 mg/m<sup>3</sup>.

**Eye contact:** *Polybor* is non-irritating to eyes in normal industrial use.

**Skin contact:** *Polybor* does not cause irritation to intact skin.

**Ingestion:** Products containing *Polybor* are *not* intended for ingestion. *Polybor* has low acute toxicity. Small amounts (e.g. a teaspoonful) swallowed accidentally are not likely to cause effects; swallowing amounts larger than that may cause gastrointestinal symptoms.

**Cancer:** *Polybor* is not a known carcinogen.

**Reproductive/Developmental:** Animal ingestion studies in several species, at high doses, indicate that borates cause reproductive and developmental effects. A human study of occupational exposure to borate dust showed no adverse effect on reproduction.

**Signs and symptoms of exposure:** Symptoms of accidental over-exposure to borates have been associated with ingestion or absorption through large areas of damaged skin. These may include nausea, vomiting, and diarrhoea, with delayed effects of skin redness and peeling (see section 11).

### 4 First aid measures

**Inhalation:** If symptoms such as nose or throat irritation are observed, remove to fresh air.

**Eye contact:** Use eye wash fountain or fresh water to cleanse eye. If irritation persists for more than 30 minutes, seek medical attention.

**Skin contact:** No treatment necessary because non-irritating.

**Ingestion:** Swallowing small quantities (one teaspoon) will cause no harm to healthy adults. If larger amounts are swallowed, give two glasses of water to drink and seek medical attention.

**Note to physicians**

Observation only is required for adult ingestion of less than 5 grams of *Polybor*. For ingestion in excess of 5 grams, maintain adequate kidney function and force fluids. Gastric lavage is recommended for symptomatic patients only. Haemodialysis should be reserved for massive acute ingestion or patients with renal failure. Boron analyses of urine or blood are only useful for documenting exposure and should not be used to evaluate severity of poisoning or to guide treatment<sup>1</sup> (see section 11).



Polybor

## 5 Fire-fighting measures

General hazard: None, because *Polybor* is not flammable, combustible or explosive. The product is itself a flame retardant.

Extinguishing media: Any fire extinguishing media may be used on nearby fires.

## 6 Accidental release measures

General: *Polybor* is a water-soluble white powder that may cause damage to trees or vegetation by root absorption (see section 12).

Land spill: Vacuum, shovel or sweep up *Polybor* and place in containers for disposal in accordance with applicable local regulations. Avoid contamination of water bodies during clean up and disposal. No personal protective equipment is needed to clean up land spills.

Spillage into water: Where possible, remove any intact containers from the water. Advise local water authority that none of the affected water should be used for irrigation or for the abstraction of potable water until natural dilution returns the boron value to its normal environmental background level (see sections 12, 13 and 15).

## 7 Handling and storage

General: No special handling precautions are required, but dry, indoor storage is recommended. To maintain package integrity and to minimise caking of the product, bags should be handled on a first-in first-out basis. Good housekeeping procedures should be followed to minimise dust generation and accumulation.

Storage temperature: Ambient  
Storage pressure: Atmospheric  
Special sensitivity: Moisture (Caking)

## 8 Exposure controls/personal protection

Engineering controls: Use local exhaust ventilation to keep airborne concentrations of *Polybor* dust below permissible exposure levels.

Personal protection: Where airborne concentrations are expected to exceed exposure limits, respirators should be used. Eye goggles and gloves are not required for normal industrial

exposures, but may be warranted if environment is excessively dusty

Occupational exposure limits: Disodium octaborate tetrahydrate is treated by ACGIH, as "Particulate Not Otherwise Classified" or "Nuisance Dust". The ACGIH: TLV (Threshold Limit Value) is 10 mg/m<sup>3</sup>

## 9 Physical and chemical properties

Appearance: White, odourless, amorphous powder  
Bulk density: 320 to 480 kg/m<sup>3</sup>  
Vapour pressure: Negligible @ 20°C  
Solubility in water: 9.7% @ 20°C; 34.3% @ 50°C

Melting point: 815°C  
pH @ 23°C: 8.3 (3.0% solution)  
7.6 (10.0% solution)  
Molecular weight: 412.52

## 10 Stability and reactivity

General: *Polybor* is a stable product.

Incompatible materials and conditions to avoid:  
Reaction with strong reducing agents such as metal hydrides or

alkali metals will generate hydrogen gas which could create an explosive hazard.

Hazardous decomposition: None.

## 11 Toxicological Information

Acute toxicity

Ingestion: Low acute oral toxicity; LD<sub>50</sub> in rats is 2,550 mg/kg of body weight.

Skin: Low acute dermal toxicity; LD<sub>50</sub> in rabbits is greater than 2,000 mg/kg of body weight. *Polybor* is poorly absorbed through intact skin.

Inhalation: Low acute inhalation toxicity; LC<sub>50</sub> in rats is

greater than 2.0 mg/l (or g/m<sup>3</sup>).

Skin irritation: Non-irritant

Eye irritation: Non-irritant in rabbits. Fifty years of occupational exposure to borates indicate no adverse effects on the human eye.

Sensitisation: *Polybor* is not a skin sensitizer.

**Other**

**Reproductive/Developmental toxicity:** No experimental test data. However, animal feeding studies with boric acid and sodium tetraborate in rat, mouse and dog, at high doses, have demonstrated effects on fertility and testes<sup>2</sup>. Studies with the chemically related boric acid in rat, mouse and rabbit, at high doses, demonstrate developmental effects on the foetus including foetal weight loss and minor skeletal variations. The doses administered were many times in excess of those which humans would normally be exposed to<sup>3,4,5</sup>

**Carcinogenicity/Mutagenicity:** No experimental test data. However, no evidence of carcinogenicity or mutagenicity was observed with boric acid or other sodium borates.

**Human data:** Human epidemiological studies show no increase in pulmonary disease in occupational populations with chronic exposures to boric acid dust and sodium borate dust. A recent epidemiology study under the conditions of normal occupational exposure to borate dusts indicated no effect on fertility

## 12 Ecological information

**Ecotoxicity data**

**General:** Boron occurs naturally in sea water at an average concentration of 5 mg B/l and fresh water at 1 mg B/l or less. In dilute aqueous solutions the predominant boron species present is undissociated boric acid. To convert *Polybor* into equivalent boron (B) content, multiply by 0.2096.

**Phytotoxicity:** Boron is an essential micronutrient for healthy growth of plants, however, it can be harmful to boron sensitive plants in higher quantities. Care should be taken to minimise the amount of borate product released to the environment.

**Algal toxicity<sup>6</sup>:**

Green algae, *Scenedesmus subspicatus*  
96-hr EC<sub>10</sub> = 24 mg B/l<sup>†</sup>

**Invertebrate toxicity<sup>7</sup>:**

Daphnids, *Daphnia magna* Straus  
48-hr LC<sub>50</sub> = 530 mg B/l<sup>†</sup>  
21-day NOEC-LOEC = 6-13mg B/l<sup>†</sup>

Test substance: †Sodium octaborate tetrahydrate  
‡Sodium tetraborate

**Fish toxicity****Sea water<sup>8</sup>:**

Dab, *Limanda limanda*  
96-hr LC<sub>50</sub> = 74 mg B/l<sup>‡</sup>

**Fresh water<sup>9</sup>:**

Rainbow trout, *Salmo gairdneri* (embryo-larval stage)  
24-day LC<sub>50</sub> = 88 mg B/l<sup>‡</sup>  
32-day LC<sub>50</sub> = 54 mg B/l<sup>‡</sup>  
Goldfish, *Carassius auratus* (embryo-larval stage)  
7-day LC<sub>50</sub> = 65 mg B/l<sup>‡</sup>  
3-day LC<sub>50</sub> = 71 mg B/l<sup>‡</sup>

**Environmental fate data**

**Persistence/Degradation:** Boron is naturally occurring and ubiquitous in the environment. *Polybor* decomposes in the environment to natural borate.

**Octanol/Water partition coefficient:** No value. In aqueous solution sodium octaborate is converted substantially into undissociated boric acid.

**Soil mobility:** The product is soluble in water and is leachable through normal soil.

## 13 Disposal considerations

**Disposal guidance:** Small quantities of *Polybor* can usually be disposed of at landfill sites. No special disposal treatment is required, but local authorities should be consulted about any

specific local requirements. Tonnage quantities of product are not recommended to be sent to landfills. Such product should, if possible, be used for an appropriate application.

## 14 Transport information

**International transportation:** *Polybor* has no UN Number, and is not regulated under international rail, road, water or air transport regulations

## 15 Regulatory information

**Chemical inventory listing:** (12280-03-4) Disodium octaborate tetrahydrate appears on several chemical inventory lists (including the EPA TSCA inventory, Canadian DSL, European EINECS, Australian and Korean) under the CAS No. representing the anhydrous form of this inorganic salt.

**General:** Ensure all national/local regulations are observed.

**Clean Air Act (Montreal Protocol):** *Polybor* was not manufactured with and does not contain any Class I or Class II ozone depleting substances.

U.S. EPA TSCA Inventory	12008-41-2
Canadian DSL	12008-41-2
EINECS	234-541-0
South Korean	9312-3215

# 16 Other information

## References

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7. Schöberl P, Marl and Huber L (1988) *Tenside Surfactants Detergents* 25, 99-107
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9. Birge W J, Black J A, EPA-560/-76-008 (April 1977) PB 267 085

For general information on the toxicology of borates see ECETOC Technical Report No. 63 (1995); Patty's Industrial Hygiene and Toxicology, 4th Edition Vol. II, (1994) Chap. 42, 'Boron'.

## Manufactured by

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**SAFETY DATA SHEET**  
(according to EC directive 93/112/EC)

Version: 2.0

Update : 12.07.2002  
Date : 24.04.2003

**TEGO ANTIFOAM AS 10**

**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING**

Trade name : TEGO ANTIFOAM AS 10

Information on manufacturer/supplier : Goldschmidt Italia S.r.L.  
Via Falconera 7  
26025 PANDINO (Cr)  
Telephone: +3903739751  
Telefax: +390373975260

Information provided by : ZA-UW Produktsicherheit  
Telephone: (+49) (0) 2 01/1 73-27 70  
Telefax: (+49) (0) 2 01/22 19 68

Emergency information : Telephone: (+49) (0) 2 01/1 73-01  
Telefax: (+49) (0) 2 01/1 73-18 54

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical characterization : Emulsion of polysiloxanes

**3. HAZARDS IDENTIFICATION**

Risk advice to man and the environment

No particular hazards known.

**4. FIRST AID MEASURES**

After inhalation : Not applicable

After contact with skin : In case of contact with skin wash off with soap and water.

After contact with eyes : In case of contact with eyes rinse thoroughly with water.

After ingestion : No special measures required.

**SAFETY DATA SHEET**  
(according to EC directive 93/112/EC)

Version: 2.0

Update : 12.07.2002  
Date : 24.04.2003

**TEGO ANTIFOAM AS 10**

**5. FIRE-FIGHTING MEASURES**

- Suitable extinguishing media : foam, carbon dioxide, dry powder, water spray.
- Extinguishing media which must not be used for safety reasons : not applicable
- Special hazards from the substance itself, its combustion products or from its vapours : In the event of fire the following can be released:  
- carbon dioxide, carbon monoxide  
- Silicon dioxide
- Special protective equipment for firefighters : Do not inhale explosion and/or combustion gases

**6. ACCIDENTAL RELEASE MEASURES**

- Personal precautions : Use personal protective equipment.
- Environmental precautions : Do not allow to enter drains
- Methods for cleaning up/taking up : Pick up with absorbent material.  
Dispose of absorbed material in accordance with the regulations.

**7. HANDLING AND STORAGE**

**Handling**

- Advice on safe handling : No special measures necessary if used correctly.
- Advice on protection against fire and explosion : No special measures required.

**Storage**

- German storage class : 10

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Personal protection equipment**

- Hygiene measures : Wash hands before breaks and after work.
- Respiratory protection : None required

**SAFETY DATA SHEET**  
(according to EC directive 93/112/EC)

Version: 2.0

Update : 12.07.2002

Date : 24.04.2003

**TEGO ANTIFOAM AS 10**

Hand protection : PVC gloves  
 Eye protection : goggles with side pieces  
 Skin and body protection : None required

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Form : Liquid  
 Colour : white  
 Odour : slight, specific  
 Flash point : > 100 °C  
 Lower explosion limit : not measured  
 Upper explosion limit : not measured  
 Density : approx. 1 g/cm<sup>3</sup>  
 at 25 °C  
 Water solubility : miscible  
 pH : 6 - 8  
 at 25 °C  
 delivered form  
 6 - 8  
 at 100 g/l water  
 at 25 °C  
 Viscosity, dynamic : 300 mPa.s  
 at 25 °C

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## 10. STABILITY AND REACTIVITY

Thermal decomposition : Not measured  
 Hazardous reactions : No hazardous reactions with proper storage and handling.  
 Hazardous decomposition products : None with proper storage and handling.

## 11. TOXICOLOGICAL INFORMATION

**SAFETY DATA SHEET**  
(according to EC directive 93/112/EC)

Version: 2.0

Update : 12.07.2002  
Date : 24.04.2003

**TEGO ANTIFOAM AS 10**

Note : Proper use provided, no adverse health effects have been observed or have been come to our knowledge.  
Eye contact may produce an oil film over the eye-ball causing a harmless reversible shortlasting dimness of sight.

**12. ECOLOGICAL INFORMATION**

**Further ecological information**

Note : The product is considered to be a weak water pollutant (German law). Do not allow to enter soil, waterways or waste water canal.

**13. DISPOSAL CONSIDERATIONS**

Product : In accordance with local authority regulations, take to special waste incineration plant

Contaminated packaging : If empty contaminated containers are recycled or disposed of, the receiver must be informed about possible hazards.

**14. TRANSPORT INFORMATION**

**Land transport**

ADR:

|| Not regulated

RID:

|| Not regulated

**Inland waterway transport**

ADNR:

|| Not regulated

**Sea transport**

IMDG:

|| Not regulated

**Air transport**

ICAO/IATA:

**SAFETY DATA SHEET**  
(according to EC directive 93/112/EC)

Version: 2.0

Update : 12.07.2002  
Date : 24.04.2003

**TEGO ANTIFOAM AS 10**

|| Not regulated

**15. REGULATORY INFORMATION**

**National legislation**

- Risk classification according to German VbF : German regulations on flammable substances: is not subjected to the regulations on flammable substances.
- TA Luft (Germany) : Class: III Paragraph 3.1.7
- Water Hazard Class (Germany) : 1 (self-classification (VbGK;Germany))
- Other regulations : none

**16. OTHER INFORMATION**

none

This information is based on our present state of knowledge. It should not therefore be construed as guaranteeing specific properties of the products described or their suitability for a particular application. Changes compared to the previous version are marked before the section number!

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# Material Safety Data Sheet

OSHA / ANSI Z400.1-2004 Compliant

MSDS date: 28-Feb-2006

**NFPA Rating:** Health: 1 Flammability: 0 Instability: 0  
**HMIS Rating:** Health: 1 Flammability: 0 Physical Hazard: 0 Personal Protection: X

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** EFKA-5207  
**Product Number:** 0531432  
**Chemical Family:** Unsaturated polar esters and amines  
**Intended Use:** Dispersing Agent ; Paint additive  
**Manufacturer/Supplier:** Ciba Specialty Chemicals Corporation  
 540 White Plains Road  
 Tarrytown, NY 10591  
 8:30am - 5pm Phone Number: 1-914-785-2000  
 MSDS Request Line (voicemail): 1-800-431-2360  
 Customer Service/Product Information 1-800-474-4731  
**Emergency 24-Hour Health/Environmental Phone: 1-800-873-1138**

## 2. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

**Signal Word:** NOTICE!  
**Physical Form:** Liquid  
**Odor:** Characteristic  
**Health:** This product has no known adverse effect on human health.  
**Physical Hazards:** None Expected  
**Environmental:** Not expected to pose a hazard to the environment. Releases to the environment are to be avoided.

**OSHA Hazardous Substance:** This material is classified as not hazardous under OSHA regulations.

**Primary Route(s) of Entry:** Ingestion, Skin, Inhalation, Eyes.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### NON-HAZARDOUS COMPONENTS

Components	CAS Number	Weight %
Fatty acid salt	Trade Secret	60 - 100

### 4. FIRST AID MEASURES

- Eyes:** In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- Skin:** Wash off immediately with soap and plenty of water. Get medical attention if irritation occurs.
- Inhalation:** Remove to fresh air, if not breathing give artificial respiration. If breathing is difficult, give oxygen and get immediate medical attention.
- Ingestion:** Do not induce vomiting. If vomiting occurs naturally, have casualty lean forward to reduce the risk of aspiration. Seek medical attention immediately.

### 5. FIRE FIGHTING MEASURES

- Fire Fighting Measures:** Standard procedure for chemical fires.
- Suitable Extinguishing Media:** Carbon dioxide, dry chemical or foam.
- Fire Fighting Equipment:** Wear self-contained breathing apparatus and protective suit.
- Hazardous Combustion Products:** Burning may produce toxic combustion products.

### 6. ACCIDENTAL RELEASE MEASURES

- Cleanup Instructions:** Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Wear suitable protective equipment. Should not be released into the environment.

### 7. HANDLING AND STORAGE

- Handling:** As with all industrial chemicals, use good industrial practices when handling. Avoid eye, skin, and clothing contact. Do not inhale. Do not taste or swallow. Use only with adequate ventilation.
- Storage:** Keep containers tightly closed in a cool, well-ventilated place.

#### For Industrial Use Only

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

#### Exposure Guidelines:

There are no OSHA or ACGIH exposure guidelines available for component(s) in this product.

**Personal Protective Equipment**

<b>Eye/Face Protection:</b>	Wear splash proof chemical goggles.
<b>Skin Protection:</b>	Wear chemical resistant gloves and protective clothing.
<b>Respiratory Protection:</b>	Use NIOSH approved respirator as needed to mitigate exposure.
<b>Engineering Controls:</b>	Work in well ventilated areas. Do not breathe vapors or mist.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Physical Form:</b>	Liquid
<b>Odor:</b>	Characteristic.
<b>Boiling Point:</b>	Not determined
<b>Freezing/Melting Point:</b>	Not determined
<b>Solubility in water:</b>	Not Miscible
<b>Vapor Density:</b>	Not determined
<b>Vapor Pressure:</b>	Not determined
<b>Density:</b>	0.95 g/cm <sup>3</sup> @ 20°C (68°F)
<b>Viscosity:</b>	160 mPa @ 20°C (68°F)
<b>pH:</b>	Not determined
<b>Percent Volatile:</b>	0 %
<b>Partition Coefficient (Octanol/Water):</b>	Not determined
<b>Autoignition Temperature:</b>	Not self-igniting
<b>Decomposition Temperature:</b>	Not determined
<b>Flammability Limits in Air:</b>	
<b>Upper</b>	Not determined
<b>Lower</b>	Not determined
<b>Flash point:</b>	Not determined

**10. STABILITY AND REACTIVITY**

<b>Stability:</b>	Stable.
<b>Conditions to Avoid:</b>	None known
<b>Incompatibility:</b>	Strong oxidizing agents, strong acids, strong bases.
<b>Hazardous Decomposition Products:</b>	No decomposition expected under normal storage conditions.
<b>Possibility of Hazardous Reactions:</b>	None expected.

**11. TOXICOLOGICAL INFORMATION**

<b>Acute Oral Toxicity:</b>	Not determined.
<b>Acute Dermal Toxicity:</b>	Not determined
<b>Acute Inhalation Toxicity:</b>	Not determined.
<b>Eye Irritation:</b>	Not expected to be an eye irritant.

<b>Skin Irritation:</b>	Not expected to be a skin irritant.
<b>Skin Sensitization:</b>	Not expected to cause sensitization.
<b>Carcinogenicity (IARC; NTP; OSHA; ACGIH):</b>	None of the components in this product at concentrations greater than 0.1% are listed by IARC; NTP, OSHA or ACGIH as a carcinogen.
<b>Mutagenicity:</b>	Not determined
<b>Reproductive Toxicity:</b>	Not determined
<b>Teratogenicity:</b>	Not determined.
<b>Neurotoxicity:</b>	Not determined
<b>Subacute Toxicity:</b>	Not determined
<b>Subchronic Toxicity:</b>	Not determined
<b>Chronic toxicity:</b>	Not determined
<b>Absorption / Distribution / Excretion / Metabolism:</b>	Not determined
<b>Additional Information:</b>	Not determined

## 12. ECOLOGICAL INFORMATION

<b>Toxicity to Fish:</b>	Not determined
<b>Toxicity to Invertebrates:</b>	Not determined
<b>Toxicity to Algae:</b>	Not determined
<b>Toxicity to Sewage Bacteria:</b>	Not determined
<b>Activated Sludge Respiration Inhibition Test:</b>	Not determined
<b>Biochemical Oxygen Demand (BOD):</b>	Not determined
<b>Chemical Oxygen Demand (COD):</b>	Not determined
<b>Total Oxygen Demand (TOD):</b>	Not determined
<b>Biodegradability:</b>	Not determined
<b>Bioaccumulation:</b>	Not determined
<b>Additional Environmental Data:</b>	Not expected to be harmful to the aquatic environment.

### 13. DISPOSAL CONSIDERATIONS

**Waste Disposal:** Dispose in accordance with local, state, provincial and federal regulations.

### 14. TRANSPORT INFORMATION

**U.S. Department of Transportation (DOT):**

Not regulated for this mode of transport.

**International Maritime Dangerous Goods (IMDG):**

Not regulated for this mode of transport.

**International Air Transportation Authority (IATA):**

Not regulated for this mode of transport.

### 15. REGULATORY INFORMATION

#### **Federal Regulations**

**OSHA Hazardous Substance:** This material is classified as not hazardous under OSHA regulations

**Clean Air Act - Hazardous Air Pollutants (HAP):** This product does not contain any Hazardous Air Pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

**Clean Air Act - Volatile Organic Compounds (VOC):** This product does not contain any SOCOMI Intermediate or Final Volatile Organic Compounds (VOC), as defined by the U.S. Clean Air Act Section 111 (40 CFR 60.489).

**Clean Air Act - Ozone Depleting Substances (ODS):** This product neither contains, nor was manufactured with, a Class I or Class II ozone depleting substance (ODS), as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App. A+B).

**Clean Water Act - Priority Pollutants (PP):** This product does not contain any priority pollutants listed under the U.S. Clean Water Act Section 307 (2)(1) Priority Pollutant List (40 CFR 401.15).

**Resource Conservation and Recovery Act (RCRA):** Not a hazardous waste under RCRA (40 CFR 261.21).

**SARA Section 302 Extremely Hazardous Substances (EHS):** This product does not contain any components regulated under Section 302 (40 CFR 355) as Extremely Hazardous Substances.

**SARA Section 304 CERCLA Hazardous Substances:** This product does not contain any components regulated under Section 304 (40 CFR 302) as hazardous chemicals for emergency release notification ("CERCLA" List).

**SARA Section 311/312 Hazard Communication Standard (HCS):** This product is not regulated under Section 311/312 HCS (40 CFR 370).

**SARA Section 313 Toxic Chemical List (TCL):** This product does not contain any component(s) listed on the Section 313 Toxic Chemical List.

**TSCA Section 8(b) Inventory Status:** All component(s) comprising this product are either exempt or listed on the TSCA inventory.

**TSCA Section 5(e) Consent Orders:** This product is not subject to a Section 5(e) Consent Order.

**TSCA Significant New Use Rule (SNUR):** This product is not subject to a Significant New Use Rule (SNUR).

**TSCA Section 5(f):** This product is not subject to a Section 5(f)/6(a) rule.

**TSCA Section 12(b) Export Notification:** This product does not contain any component(s) that are subject to a Section 12(b) Export Notification

### State Regulations

**California Proposition 65:** This product does not contain any components currently on the California list of Known Carcinogens and Reproductive Toxins.

**Pennsylvania Right-To-Know:** This product does not contain any components that are subject to the Pennsylvania Right-To-Know disclosure requirement.

### International Regulations

**Chemical Weapons Convention (CWC):** This product does not contain any component(s) listed under the Chemical Weapons Convention Schedule of Chemicals.

**Domestic Substance List (DSL) Status:** All components either exempt or listed on the DSL.

## 16. OTHER INFORMATION

**Disclaimer:** The information contained herein is based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to such data or information. The user is responsible for determining whether the product is suitable for its intended conditions of use.

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AMINES / SURFACTANTS /

## HYDROGENATED DITALLOWAMINE

### PRODUCT IDENTIFICATION

CAS NO. 61789-79-5; 8035-07-2 12704-96-0

EINECS NO. 263-089-7

FORMULA  $R_2NH$

MOL WT.

H.S. CODE 2921.16

TOXICITY

SYNONYMS Bis(hydrogenated tallow alkyl) Amine;  
Dihydrogenatedtallowalkyl amine;

DERIVATION

CLASSIFICATION

PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE yellow solid

MELTING POINT 60 - 70 C

BOILING POINT

SPECIFIC GRAVITY

SOLUBILITY IN WATER Insoluble

pH

VAPOR DENSITY

AUTOIGNITION

REFRACTIVE INDEX

NFPA RATINGS Health: 3; Flammability: 0; Reactivity: 0

FLASH POINT 150 C

STABILITY Stable under ordinary conditions

GENERAL DESCRIPTION & APPLICATIONS

### Application of Fatty Amines

- Cationic surfactants (disinfectants, fungicides, germicide, leveling agents, hair rinse bases, wood preservatives, textile softeners, dyeing auxiliaries, ore flotation. pigment grinding aids. anticaking agents)
- Amphoteric surfactants and Amine oxides (antistatic agent, textile scouring agent, ingredient for low irritation shampoo, liquid detergent, foam booster, oil recovery agent)
- Corrosion inhibitors and asphalt emulsifier
- Dispersants, lubricants, water treatment agents.

Fatty amine products are used as a dispersing agent or internal/external lubricant for benefits in polymer production of to facilitate and stabilize the dispersion of solid compounding materials to enhance processability, to decrease friction and abrasion of the polymer surface, and to contribute color stability and corrosion prevention.

### Members of Fatty Amines

- Octyl amine (CAS RN: 111-86-4)
- Lauryl amine (CAS RN: 124-22-1)
- Stearyl amine (CAS RN: 124-30-1)
- Oleyl amine (CAS RN: 112-90-3)
- Tallowamine (CAS RN: 61790-33-8)
- Cetylamine (CAS RN: 143-27-1)

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- N-Tetradecylamine (CAS RN: 2016-42-4)
- Cocoamine (CAS RN: 61788-46-3))
- Hydrogenated tallowamine (CAS RN: 61788-45-2)
- Alkyl(C16 and C18-unsaturated) amine (CAS RN: 68855-63-0)
- Alkyl(C14-18) amine (CAS RN: 68037-91-2)
- Alkyl(C16-22) amine (CAS RN: 68037-92-3)
- Alkyl(C8-18 and C18-unsaturated) amine (CAS RN: 68037-94-5)
- Alkyl(C12-18) amine (CAS RN: 68155-27-1)
- Di(hydrogenated tallow)amine (CAS RN: 61789-79-5)
- Dicocoalkyl amine (CAS RN: 61789-76-2)
- Dialkyl(C14-18) amine(CAS RN: 68037-98-9)
- Dialkyl(C12-18) amine (CAS RN: 68153-95-7)
- Dialkyl(C16--22) amine (CAS RN: 68439-74-7)
- N-Tridecyltridecanamine (CAS RN: 68513-50-8)
- N-Methylstearylamine (CAS RN: 2439-55-6)
- Distearyl amine (CAS RN: 112-99-2)
- Dialkyl(C8--20) amine(CAS RN: 68526-63-6)
- N-Octadecylbenzylamine (CAS RN: 20198-87-2)
- N-Isopropyloctadecylamine (CAS RN: 13329-71-0)
- N-Hexadecyloctadecylamine (CAS RN: 45310-14-3)
- Dimantine (CAS RN: 124-28-7)
- N-Methyldioctadecylamine (CAS RN: 4088-22-6)
- Dimethyl palmitamine (CAS RN: 112-69-6)
- Cocodimethylamine (CAS RN: 61788-93-0)
- Alkyl(C10-16)dimethyl amine (CAS RN: 67700-98-5)
- Alkyl(C14-18)dimethyl amine (CAS RN: 68037-93-4)
- Alkyl(C16-18 and C18-unsaturated)dimethyl amine (CAS RN: 68037-96-7)
- Alkyl(C16-18)dimethyl amine (CAS RN: 68390-97-6)
- Alkyl(C12-18)dimethyl amine (CAS RN: 68391-04-8)
- Alkyl(C16-22)dimethyl amine (CAS RN: 75444-69-8)
- Oleyldimethylamine (CAS RN: 71662-63-0)
- N-Methyldidecylamine (CAS RN: 7396-58-9)
- N,N-Dioctylmethylamine (CAS RN: 4455-26-9)
- Dicocomethylamine (CAS RN: 61788-62-3)
- Dihydrogenated tallowmethyl amine (CAS RN: 61788-63-4)
- Trialkyl(C6-12) amine (CAS RN: 68038-01-7)
- N,N-Dioctyloctyl amine (CAS RN: 68439-83-8)
- Trialkyl(C8-10) amine (CAS RN: 68814-95-9)
- Cocopropylenediamine (CAS RN: 61791-63-7)
- Laurylpropylenediamine (CAS RN: 10443-36-4)
- N-Dodecylpropylenediamine (CAS RN: 30677-46-4)
- Laurylamine dipropylenediamine (CAS RN: 2372-82-9)
- N-(Tallow alkyl)dipropylenetriamine (CAS RN: 61791-57-9)
- N-(Tallow alkyl)dipropylenetriamine (CAS RN: 61791-57-9)
- N-Stearoyltetraethylenetetramine (CAS RN: 4040-54-4)

#### SALES SPECIFICATION

APPEARANCE	yellow semi-solid
PRIMARY AMINE	5.0% max
SECONDARY AMINE	85.0% min
AMINE VALUE	105 - 120 mg/g
COLOR, GARDNER	3 max
C DISTRIBUTION	C18 65% + C16 30% + C14 5% ( Typical)

## TRANSPORTATION

PACKING 160kgs in drum  
HAZARD CLASS 8 (Packing group: II)  
UN NO. 3263

## OTHER INFORMATION

European Hazard Symbols: C, Risk Phrases: 34/41/43, Safety Phrases: 26/28B/37/39

## GENERAL DESCRIPTION OF TALLOW

Fatty Acids are aliphatic carboxylic acid with varying hydrocarbon lengths at one end of the chain joined to terminal carboxyl (-COOH) group at the other end. The general formula is  $R-(CH_2)_n-COOH$ . Fatty acids are predominantly unbranched and those with even numbers of carbon atoms between 12 and 22 carbons long react with glycerol to form lipids (fat-soluble components of living cells) in plants, animals, and microorganisms. Fatty acids all have common names respectively lauric (C12), Myristic (C14), palmitic (C16), stearic (C18), oleic (C18, unsaturated), and linoleic (C18, polyunsaturated) acids. The saturated fatty acids have no double bonds, while oleic acid is an unsaturated fatty acid has one double bond (also described as olefinic) and polyunsaturated fatty acids like linolenic acid contain two or more double bonds. Lauric acid (also called Dodecanoic acid) is the main acid in coconut oil (45 - 50 percent) and palm kernel oil (45 - 55 percent). Nutmeg butter is rich in myristic acid (also called Tetradecanoic acid ) which constitutes 60-75 percent of the fatty-acid content.

Palmitic acid(also called Hexadecylic acid ) constitutes between 20 and 30 percent of most animal fats and is also an important constituent of most vegetable fats (35 - 45 percent of palm oil). Stearic acid ( also called Octadecanoic Acid) is nature's most common long-chain fatty acids, derived from animal and vegetable fats. It is widely used as a lubricant and as an additive in industrial preparations. It is used in the manufacture of metallic stearates, pharmaceuticals, soaps, cosmetics, and food packaging. It is also used as a softener, accelerator activator and dispersing agent in rubbers. Oleic acid (systematic chemical name is cis-octadec-9-enoic acid) is the most abundant of the unsaturated fatty acids in nature.

Tallow is a hard fat consists chiefly of glyceryl esters of oleic, palmitic, and stearic acids (16-18 carbon chains). It is extracted from fatty deposits of animals, especially from suet (fatty tissues around the kidneys of cattle and sheep). Tallow is used for soaps, leather dressings, candles, food, and lubricants. It is used in producing synthetic surfactants.

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# Safety Data Sheet

DSCL (Classification)	
Xn Symbol	
R22-Harmful if ingested.	
R41-Risk of serious damage to eyes.	
S2 – Keep out of reach of children.	
S22 – DO NOT breathe dust.	
S25 – Avoid contact with eyes.	
S26 – In case of contact with eyes, rinse immediately with plenty of water. Seek medical attention.	
S39 – Wear eye/face protection.	
S40 – To clean the floor and all objects contaminated by this material, use water.	
S46 – If swallowed, seek medical advice immediately and show the container or the label.	

Section 1. Identification of the substance/preparation and of the company/undertaking			
Product Identity / Trade Name	<b>Benzoic acid, Technical Grade, Molten</b>	CAS#	65-85-0
Chemical Name	Benzoic acid	Chemical Formula	C <sub>7</sub> H <sub>6</sub> O <sub>2</sub>
Synonym	Benzenecarboxylic acid	Chemical Family	Carboxylic Acid (Aromatic)
Supplier	Velsicol Eesti AS Uus Tehase 8 30328 Kohtla-Järve Estonia Phone: +372 33 25 915 / 916 / 954 Fax: +372 33 25 914	Manufacturer	Velsicol Eesti AS Uus Tehase 8 30328 Kohtla-Järve Estonia Phone: +372 33 25 915 / 916 / 954 Fax: +372 33 25 914 Email: msds@velsicol.com
In Case of Emergency	In the continental U.S.A. call CHEMTREC 800-424-9300 (24 hours)  Outside the continental U.S.A. call CHEMTREC 703-527-3887 (24 hours)	Use of Substance / Preparation	Industrial applications: Intermediate, additive (rubber accelerator, corrosion inhibitor), preservative (improves food and beverage storage stability, reduces can corrosion for emulsions, paints, liquid detergents, etc.)  Petrochemical industry: Intermediate for production of phenols, carpolactam, as well as benzoic acid salts and esters. Preparation of plasticizers. Preparation of sodium benzoate.  Textile industry: Dyeing assistant.  NOT for FOOD or DRUG USE, WITHOUT FURTHER PROCESSING

Section 2. Hazards identification	
Potential Acute Health Effects	Contact with molten material will cause thermal burns. Extremely dangerous in case of eye contact (irritant, corrosive). Very slightly to slightly dangerous in case of ingestion, of inhalation. Animal testing indicates that this material is not dangerous in case of skin contact (non-corrosive for skin, non-irritant for skin, non-sensitizer for skin). However, human experience indicates that the material is irritating to damp skin. Corrosive to eyes. The amount of tissue damage depends on length of contact. Eye contact can result in corneal damage or blindness. This product is an eye irritant. Inflammation of the eye is characterized by redness, watering, and itching. Inhalation of dust will produce irritation to gastro-intestinal or respiratory tract, characterized by burning, sneezing, and coughing.
Potential Chronic Health Effects	<b>CARCINOGENIC EFFECTS:</b> Not available. <b>MUTAGENIC EFFECTS:</b> Not available. <b>TERATOGENIC EFFECTS:</b> Not available. Toxicity of the product to the reproductive system: Not available. Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated skin exposures can product dermatitis. Repeated inhalation of dust can product varying degrees of respiratory irritation or lung damage.

Section 3. Composition/information on ingredients						
Name	Symbol	R Phrase	CAS#	EC Number	% by Weight	
1) Benzoic acid	Xn	R22 & R41	65-85-0	200-618-2	99.5-100	
2) Water (impurity)			7732-18-5	231-791-2	0-0.1	

<b>Section 4. First-aid measures</b>	
Eye Contact	Check for and remove any contact lenses. IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. COLD water may be used. DO NOT use an eye ointment. Seek medical attention.
Skin Contact	Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean fold, crevices, creases and groin. COLD water may be used. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.
Inhalation	Allow the victim to rest in a well ventilated area. Seek immediate medical attention.
Ingestion	DO NOT induce vomiting. Have conscious person drink several glasses of water or milk. Seek immediate medical attention.

<b>Section 5. Fire-fighting measures</b>	
Fire Fighting Media and Instructions	SMALL FIRE: Use DRY chemicals, CO <sub>2</sub> , water spray or foam. LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet. Products of combustion are carbon oxides (CO, CO <sub>2</sub> ).

<b>Section 6. Accidental release measures</b>	
Small Spill	Use appropriate tools to put the spilled solid in a convenient waste disposal container. If necessary: Neutralize the residue with a dilute solution of sodium carbonate. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
Large Spill	Stop leak if without risk. Avoid contact with skin and eyes. Prevent entry into sewers, basements or confined areas; dike if needed. Pick up solids and put in an appropriate sealed container for later disposal. Neutralize the residue with a dilute solution of sodium carbonate.

<b>Section 7. Handling and storage</b>	
Handling	S2 – Keep out of reach of children. S22 – DO NOT breathe dust. S25 – Avoid contact with eyes. S26 – In case of contact with eyes, rinse immediately with plenty of water. Seek medical attention. S39 – Wear eye/face protection. S40 – To clean the floor and all objects contaminated by this material, use water. S46 – If swallowed, seek medical advice immediately and show the container or the label.
Storage	Store in well ventilated area away from sources of ignition.

<b>Section 8. Exposure controls/personal protection</b>	
Engineering Controls	Good general ventilation should be sufficient to control airborne levels. If user operations generate dust, fume or mist, use ventilation to minimize exposure to airborne contaminants.
Personal Protection	Splash goggles. Lab coat. Wear appropriate respirator when ventilation is inadequate.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient: consult a specialist BEFORE handling this product.
Exposure Limits	Not available.

<b>Section 9. Physical and chemical properties</b>			
Appearance	Liquid	Odor	Odorless or slight Benzaldehyde-like odor
Molecular Weight	122.13	Color	Colorless to light yellow
pH (1% soln/water)	3		
Boiling Point	249.2°C (480.6°F)		
Melting Point	122.4°C (252.3°F)		
Critical Temperature	479°C (894.2°F)		
Relative Density	1.08 @ 122°C (Water = 1)		
Vapor Pressure	0.01 mm of Hg (@ 20°C). Sublimes at 100 degrees C.		
Vapor Density	4.21 (Air = 1)		
Volatility	Not available		
Relative Density	Not available		
Evaporation Rate	Lower than 1. (Butyl acetate)		
Viscosity	Not available		
Partition Coefficient Log n-Octanol/Water	0.0135. Log Pow = 1.87 @ 20 degrees C.		

<b>Section 9. Physical and chemical properties</b>	
Ionicity (In Water)	Not available.
Dispersion Properties	See solubility in water, methanol, diethyl ether, acetone.
Solubility	Easily soluble in methanol, acetone. Soluble in diethyl ether. Partially soluble in cold water.
Flash Point	CLOSED CUP: 121.11°C (250°F) OPEN CUP: >93.3°C (200°F) (Estimated)
Auto Ignition Temp.	570°C (1058°F)
Flammability	Combustible. Very slightly to slightly flammable in presence of open flames and sparks, of heat.
Explosive Properties	May form explosive dust-air mixtures.
Oxidising Properties	Not available.

<b>Section 10. Stability and reactivity</b>	
Stability	The product is stable.
Instability Temperature	Not available.
Conditions to Avoid	No additional remark.
Incompatibility with Various Substances	Slightly reactive to reactive with oxidizing agents.
Corrosivity	No specific information is available in our database regarding the corrosivity of this product in presence of various materials.
Hazardous Polymerization	Not available.
Hazardous Decomposition Products	Not available.

<b>Section 11. Toxicological information</b>	
Routes of Entry	Skin contact. Eye contact. Inhalation. Ingestion.
Toxicity to Animals	<p>Data from toxicity studies conducted by Velsicol Chemical Corporation and from a search of the scientific literature are summarized below:</p> <p>Oral LD50, rats, 1700-2565 mg/kg, Slightly toxic            Oral LD50, mice, 1940-2250 mg/kg, Slightly toxic            Dermal DL50, rabbit, &gt;2,000 mg/kg, No more than slightly toxic            Inhalation LC50, rat, 4-hr &gt; 12.2 mg/l, Practically non-toxic</p> <p>Eye Irritation – Corrosive to Rabbits; instillation of 100 mg neat benzoic acid caused eye severe irritation            Skin Irritation – Non-irritating to Rabbits</p> <p>No allergic skin reaction was reported after repeated skin application using guinea pigs. Skin irritation was the only effects reported in rabbits after repeated dermal exposure (up to 2500 mg/kg) for 21 days.</p> <p>No genetic changes were reported in standard tests using yeast, bacteria, animal or human cells.</p> <p>HUMAN – In a study of 627 patients attending a contact dermatitis clinic, 5% benzoic acid in petrolatum was described as marginally irritating in 24 or 48 hour covered applications. Nine patients given 1.5 g neat benzoic acid by mouth twice daily for 4 days suffered “gastric burning”. General health, blood and urine composition were normal in 6 subjects consuming about 6 mg of benzoic acid/kg bw/day for up to 62 days.</p> <p>RAT – Repeated administration of benzoic acid at dietary levels of 3% or more has produced decreases in growth rate, damage to spleen and lymph nodes, liver and kidneys and gastro-intestinal tract and CNS effects. No effect on fertility, lactation, growth, survival or the incidence of fetal malformations occurred when groups of 20 male and 20 female rats were fed up to 1% benzoic acid in the diet over 4 generations. Microscopic lesions were reported in rats after inhalation of benzoic acid dust aerosol for four weeks (all dose groups). Respiratory tract irritation and death (2/20) were reported in the high dose group (1.2 mg/l).</p> <p>Benzoic acid was inactive in cell transformation assays using human or hamster cells.</p> <p>Benzoic acid consistently failed to demonstrate mutagenic activity in an Ames test both with and without added liver metabolic activation fractions.</p>

<b>Section 12. Ecological information</b>	
Ecotoxicology	96-hr LC50 Bluegill sunfish: 44.6 mg/L, Slightly toxic 96-hr LC50 Rainbow trout: 47.3 mg/L, Slightly toxic 48-hr LC50 Daphnia magna: > 100 mg/L, Practically non-toxic
Chemical Fate	The BOD5 is 67% of theoretical. The COD is 98% of theoretical.  Log Kow – 1.87 @20°C  Biodegradable under aerobic conditions by bacteria present in crude municipal waste.  Should leach into ground due to its low soil adsorption, if released to ground. Should also biodegrade in water. Bioconcentration in fish and algae is not significant. There is some evidence that bioconcentration in aquatic species like daphnia and snails may be considerable.  Half Life: Water= 1 week, Soil= 0.2 – 3.6 days. Log Pow = 1.87 @ 20°C.

<b>Section 13. Disposal considerations</b>	
Waste Disposal	Recycle to process, if possible. Consult your local or regional authorities for disposal options. Chemical landfill or incineration are appropriate disposal methods. Not a listed or characteristic hazardous waste in the USA, as supplied.

<b>Section 14. Transport information</b>	
ADR Classification	Proper Shipping Name: Elevated Temperature Liquid, Flammable n.o.s. (Benzoic acid);RQ Hazard Class: 3 UN ID#: UN3256 Packaging Group: III
Special Provisions for Transport	<b>IMO/IMDG (Sea):</b> Proper Shipping Name: Elevated Temperature Liquid, Flammable n.o.s. (Benzoic acid);RQ Hazard Class: 3 UN ID#: UN3256 Packaging Group: III  <b>DOT (USA):</b> Proper Shipping Name: Elevated Temperature Liquid, Flammable n.o.s. (Benzoic acid);RQ Hazard Class: 3 UN ID#: UN3256 Packaging Group: III
Customs Classification	International HTS# 2916.31.1105

<b>Section 15. Regulatory information</b>																			
European Labeling	Xn Symbol R22-Harmful if ingested. R41-Risk of serious damage to eyes. S2 – Keep out of reach of children. S22 – DO NOT breathe dust. S25 – Avoid contact with eyes. S26 – In case of contact with eyes, rinse immediately with plenty of water. Seek medical attention. S39 – Wear eye/face protection. S40 – To clean the floor and all objects contaminated by this material, use water. S46 – If swallowed, seek medical advice immediately and show the container or the label.																		
Global Inventories	<table border="0"> <tr> <td>Europe (EINECS, ELINCS, NLP)</td> <td>In Compliance with the EINECS (200-618-2)</td> </tr> <tr> <td>Australia (AICS)</td> <td>In Compliance with the AICS</td> </tr> <tr> <td>Canada (DSL, NDSL)</td> <td>In Compliance with the DSL</td> </tr> <tr> <td>China (IECSC)</td> <td>In Compliance with the IECSC</td> </tr> <tr> <td>Japan (ENCS)</td> <td>In Compliance with the ENCS ((3)-1397)</td> </tr> <tr> <td>Korea (KECI)</td> <td>In Compliance with the KECI (KE-02696)</td> </tr> <tr> <td>New Zealand (NZIoC)</td> <td>In Compliance with the NZIoC</td> </tr> <tr> <td>Philippines (PICCS)</td> <td>In Compliance with the PICCS</td> </tr> <tr> <td>United States (TSCA)</td> <td>In Compliance with the TSCA</td> </tr> </table>	Europe (EINECS, ELINCS, NLP)	In Compliance with the EINECS (200-618-2)	Australia (AICS)	In Compliance with the AICS	Canada (DSL, NDSL)	In Compliance with the DSL	China (IECSC)	In Compliance with the IECSC	Japan (ENCS)	In Compliance with the ENCS ((3)-1397)	Korea (KECI)	In Compliance with the KECI (KE-02696)	New Zealand (NZIoC)	In Compliance with the NZIoC	Philippines (PICCS)	In Compliance with the PICCS	United States (TSCA)	In Compliance with the TSCA
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<b>Section 15. Regulatory information</b>	
Other Regulations	<p>OECD: This substance is on the Organization for Economic Cooperation and Development (OECD) Working List (Sublist) of High Production Volume Chemicals.</p> <p>Germany: Ordinance on Classification of Water-Endangering Substances. This substance has been assigned WGK Class: 1 (Slightly water endangering): WGK Identification Number: None; Assigned by Velsicol Chemical Corporation.</p> <p>Switzerland: Federal Health Agency, Giftiste 1 (Stoffe), Ausgabe 1995 [Toxics list 1 (1995)]. Toxicity Category: 4; Identification Number: G-1229.</p> <p>United States: OSHA Hazard Communication Standard (29 CFR 1910.1200) classification: This product is not regulated as a hazardous substance.</p>

<b>Section 16. Other information</b>			
Full Text of Risk Phrases	R22-Harmful if ingested. R41-Risk of serious damage to eyes.		
Amendments	Compliance with Regulation (EC) No. 1907/2006		
Prepared by:	Christopher Charniak		
References	<ul style="list-style-type: none"> <li>-REGISTRY Database, Chemical Abstract Service 2/19/96</li> <li>-CHEMLIST Database, Chemical Abstract Service, 2/19/96</li> <li>-MEDITEXT Medical Management Database, Micromedex Inc., Vo. 28, 4/30/96</li> <li>-Registry of Toxic Effects of Chemical Substances (RTECS), 10/95</li> <li>-New Jersey Hazardous Substances Fact Sheet, 8/87</li> <li>-Hazardous Substances Data Bank (HSDB), National Library of Medicine, #704, 12/22/94</li> <li>-Chemical Hazard Response Information System (CHRIS), Micromedex Inc. Vol. 25, 7/31/95</li> <li>-Integrated Risk Information System (IRIS), U.S. EPA, 9/7/88</li> <li>-LOLI Database, Chem Advisor via Micromedex Inc., 2/19/96</li> <li>-Transportation Database, Canadian TDG, Micromedex Inc., Vol. 28, 2/19/96</li> <li>-ICRMS North American Database, Ariel Research Corporation, 2/26/96</li> <li>-ICRMS European database, Ariel Research Corporation, 2/26/96</li> <li>-ICRMS Inventories Database, Ariel Research Corporation, 2/26/96</li> <li>-Velsicol Chemical Corporation, unpublished studies</li> <li>-Product Information Bulletin, Velsicol Chemical Corporation, #VCC1295R980</li> </ul>		
Information Contact	<table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;">           For MSDS or Regulatory information, contact:            Environmental, Health and Safety Department            Velsicol Chemical Corporation            10400 W. Higgins Road            Rosemont, IL 60018 U.S.A.            Phone: 847-298-9000            Fax: 847-298-9018         </td> <td style="width: 50%; vertical-align: top;">           For Technical or Product Support Information, contact:            Velsicol Eesti AS            Uus Tehase 8            30328 Kohtla-Järve            Estonia            Phone: +372 33 25 915 / 916 / 954            Fax: +372 33 25 914         </td> </tr> </table>	For MSDS or Regulatory information, contact: Environmental, Health and Safety Department Velsicol Chemical Corporation 10400 W. Higgins Road Rosemont, IL 60018 U.S.A. Phone: 847-298-9000 Fax: 847-298-9018	For Technical or Product Support Information, contact: Velsicol Eesti AS Uus Tehase 8 30328 Kohtla-Järve Estonia Phone: +372 33 25 915 / 916 / 954 Fax: +372 33 25 914
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Notice to Reader	<p><i>To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.</i></p>		