Attachment G

Resources Use & Energy Efficiency

Attachments in this Section include:

G.1 Raw Materials, Substances, Preparations & Energy

G.2 Energy Efficiency

Attachment G.1 Raw Materials, Substances, Preparations & Energy

Raw materials used on-site include water, electricity and fuel. With the exception of the wastes describes in Section H of this application, other materials, intermediates and products used on site comprise of fuel (diesel, hydraulic oil, engine oil, Ad-Blue, coolants, water, detergent, disinfectants and lubricants for the vehicles and plant. A list of all chemicals and substances used on-site is maintained at the facility along with the applicable materials safety data sheets (MSDSs). Copies of the MSDSs for the principal fuels used on-site are included as part of this attachment. If new chemicals are ordered, an MSDS is requested with the first delivery of the product.

All plant associated liquids are stored in bunded areas. Bulk fuel storage at the site is located within tanks on-site, which are complete with integrity certificates.

Chemical Inventory

Chemical	Supplier	Area Used	Safety Data Sheet
(AEROSOL) SILICONE SPRAY	Autosmart	Cleaning	✓
ALI	Autosmart	Cleaning	✓
Clean Air	North Chemicals	Cleaning	✓
Descaler for Utensil Washing Machines	Kitchenmaster	Cleaning	✓
G101	Autosmart	Cleaning	✓
Killgerm	Spraychem	Cleaning	✓
Limate - Dychem	Moynihans	Cleaning	✓
Odour - Solv - Dychem	Moynihans	Cleaning	✓
PLATINUM	Autosmart	Cleaning	✓
Sesamie	Moynihans	Cleaning	✓
Smart Shine	Autosmart	Cleaning	✓
Superlimate- Dychem	Moynihans	Cleaning	✓
TRIPLE	Autosmart	Cleaning	✓
VINYL SHIELD	Autosmart	Cleaning	✓
Hydrox 5	Biocel	Disinfectant	✓
IOSAN D	Animal Health	Disinfectant	✓
IOSAN FARM DISINFECTANT	EcoLab	Disinfectant	✓
Santrax	Wilmar Wilson	Disinfectant	✓
Scentry- Dychem	Moynihans	Disinfectant	✓
Automotive Gas Oil - Irish Shell Ltd.	Shell	Lubricants/Fuels	✓
Castrol Spheerol L-EP2	Castrol	Lubricants/Fuels	✓
Castrol Tection Medium -15W-40	Castrol	Lubricants/Fuels	✓
Concentrated Inorganic coolant-Shell Antifreeze Concentrate	Shell	Lubricants/Fuels	✓
Extra High Performance Diesel Engine Oil - Shell Rimula x Multigrade (CH-4)	Shell	Lubricants/Fuels	✓
High Performance Hydraulic Oil-Shell Tellus Oils	Shell	Lubricants/Fuels	✓
High Temperarture wheel bearing greases - Shell Retinax Greases LX	Shell	Lubricants/Fuels	✓
Mobil Grease	Burke Lubricants	Lubricants/Fuels	✓
Mobil Hydraulic Fluid	Burke Lubricants	Lubricants/Fuels	✓
Superblue High Temperature Grease	Maintenance Direct	Lubricants/Fuels	✓
WD-40 (Aerosol)	EPT	Lubricants/Fuels	✓
WD-40 (Bulk)	EPT	Lubricants/Fuels	✓
Antifreeze Concentrate	EPT		✓
BOP Hydraulic	Burke Lubricants	Lubricants/Fuels	✓
Adblue	Dobbs	Lubricants/Fuels	

TENNANTS DISTRIBUTION LIMITED

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PRODUCT DATA SHEET

(This booklet incorporates the Specification and M.S.D.S.)

PRODUCT	GREENOX® (AdBlue®)	
CAS NO.	57-13-6	
TARIFF NO.		
U.N NO.		
EINECS NO.	200-315-5	
IMCO CLASS		
HAZARDS		
SPECIFICATION REFERENCE	ADBL/4	DATE AUG 08
REFERENCE NO.	ADBL/4	DATE AUG 08
PREVIOUS EDITION.	ADBL/3	DATE OCT 06

PRODUCT SPECIFICATION

Product Name: Greenox® (AdBlue®)
Alternative Name:
Product Grade:

SALES SPECIFICATION

Characteristics	Unit	Min	Max	Typical Value
Urea Content	Weight %	31.8	33.2	32.5
Density	g/cm^3	1.087	1.093	1.0895
Refractive Index at 20°C		1.3814	1.3843	1.3829
Alkalinity as NH^3	%	-	0.2	
Biuret	%	-	0.3	
Aldehydes	mg/kg	-	5	
Insolubles	mg/kg	-	20	
Phosphate (PO_4)	mg/kg	-	0.5	
Calcium	mg/kg	-	0.5	
Iron	mg/kg	-	0.5	
Copper	mg/kg	-	0.2	
Zinc	mg/kg	-	0.2	
Chromium	mg/kg	-	0.2	
Nickel	mg/kg	-	0.5	
Aluminium	mg/kg	-	0.5	
Magnesium	mg/kg	-	0.5	
Sodium	mg/kg	-	0.5	
Potassium	mg/kg	-	0.5	

Greenox® conforms to DIN 70070 and ISO 22241

Storage
To maintain the product quality it is recommended that AdBlue® is stored below 25°C and out of direct sunlight

Shelf Life (in accordance with ISO 22241-3)

Constant ambient storage temperature (°C)	Minimum shelf life (months)
≤10	36
≤25	18
≤30	12
≤35	6
≥35	Significant decomposition test before use

Freezing
Adblue® will begin to freeze at -11.5°C; this does not affect the product quality or strength. The liquid phase of a partially frozen solution will still be at the required concentration and may continue to be used. The remaining frozen portion may be used after allowing to thaw

NOTES

Exclusion of Liability

Information contained in this publication is accurate to the best of the knowledge and belief of Tennants.

Any information or advice obtained from Tennants otherwise than by means of this publication and whether relating to Tennants materials or other materials. is also given in good faith. However, it remains at all times the responsibility of the customer to ensure that Tennants materials are suitable for the particular purpose intended.

Tennants accepts no liability whatsoever (except as otherwise provided by law) arising out of the use of information supplied, the application. adaptation or processing of the products described herein, the use of other materials in lieu of Tennants materials or the use of Tennants materials in conjunction with such other materials.

Health and Safety

A Material Safety Data Sheet has been issued describing the health, safety and environmental properties of this product, identifying the potential hazards and giving advice on the handling precautions and emergency procedures. This must be consulted fully before handling. storage and use.

SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

Product:	Greenox® (AdBlue®)
COMPANY:	TENNANTS DISTRIBUTION LIMITED
	Hazelbottom Road
	Cheetham
	Manchester
	M8 0GR
	Tel No. 44(0)161 205 4454
	Fax No. 44(0)161 203 4298
	Botany Way
	Purfleet
	Essex
	RM19 1SN
	Tel No. 44(0)1708 860075
	Tel No. 44(0)1708 860074
Emergency Tel No.	01865 407333

2. COMPOSITION/INFORMATION ON INGREDIENTS

Composition	Urea
Concentration	32.5%
CAS No.	57-13-6
EINECS No.	200-315-5
Further Information	Aqueous solution of Urea

3. HAZARDS IDENTIFICATION

Main Hazards	No specific hazards related to the product

4. FIRST AID MEASURES

First Aid – Eyes	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician
First Aid – Skin	Wash off with plenty of water. Take off all contaminated clothing
First Aid – Ingestion	Rinse mouth with water. Drink plenty of water. Do not induce vomiting. Call a physician
First Aid – Inhalation	Move to fresh air

5. FIRE FIGHTING MEASURES

Extinguishing Media	The product itself does not burn. Standard procedures for chemical fires
Special Hazards In A Fire	Heating can release hazardous gases (NOx, HCN, NH_3)
Protective Equipment for Fire Fighting	Wear self contained breathing apparatus and splash protection suit

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Avoid contact with skin and eyes. Slipping hazard
Environmental Precautions	Prevent product from entering drains and surface and ground water
Measures For Clean Up	Take up mechanically and collect in suitable container for disposal. Dispose of in compliance with local and national regulations. After cleaning, flush away traces with water

7. HANDLING AND STORAGE

Safe Handling Advice	Avoid contact with skin and eyes
Storage	Keep containers tightly closed in a dry and cool place. Keep away from strong oxidising agents (permanganates, chromates, nitrates, nitrites, chlorine and hypochlorites)

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits	No specific exposure limit determined for the substance
Occupational Exposure Controls	Avoid contact with skin and eyes. Wash hands before breaks and immediately after handling the product
Hand Protection	PVC, latex or other plastic material/rubber gloves. Do not wear leather gloves
Eye Protection	Goggles
Skin And Body Protection	Do not wear leather shoes

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid, clear, colourless – yellowish; possibly slightly ammoniacal odour
pH	10 (10% solution)
Boiling Point/Range	103°C
Flash Point	Not applicable
Explosive Properties	Not applicable
Lower Explosion Limit	Not applicable
Upper Explosion Limit	No data available

Solubility	Fully soluble
Water Solubility	
Fat Solubility (Solvent – Oil to be specified)	No data available
Partition Co-Efficient (n-octanol/water)	Urea: Log Pow = -2.59 (20-25°C)
Viscosity	ca. 1.4 mPa.s (25°C)
Further Information	Crystallisation temperature = -11°C

10. STABILITY AND REACTIVITY

Hazardous Decomposition Products	Strong oxidising agents, (permanganates, chromates, nitrates, nitrites, chlorine, hypochlorites)
	Heating can release hazardous gases (NOx, HCN, NH_3)

11. TOXICOLOGICAL INFORMATION

Acute Oral Toxicity	LD50/Oral/Rat = 14300 mg/kg
	LD50/Oral/Mouse = 11500 mg/kg
Skin Irritation	May cause skin irritation
Eye Irritation	Urea has not caused sensitisation on laboratory animals
Genotoxicity In Vitro	No adverse health effects are known or expected under normal use

12. ECOLOGICAL INFORMATION

Aquatic Toxicity	LC50/96h/Barilius barna >9100 mg/l
	LC50/24h/daphnia >10000 mg/l
Mobility	Water soluble. Adsorption to soil is low
Biological Degradability	Biodegradable
Bio Accumulative Potential	Accumulation is unlikely, log Pow (urea) = -2.59

13. DISPOSAL CONSIDERATIONS

Product Disposal	In accordance with local and national regulations

14. TRANSPORT INFORMATION

Not regulated

15. REGULATORY INFORMATION

Not classified

16. OTHER INFORMATION

®Greenox is a registered trademark of Tennants in the UK and Ireland

® Adblue is a registered trademark of the Verband der automobilindustrie e.V (VDA)

Further information has been added to page 2. Also trademark information has been updated

Revision Date: 04/08/08

SAFETY DATA SHEET

BOP Hydraulic 46

1 SUBSTANCE/ PRODUCT IDENTIFICATION

Product Trade Name	BOP Hydraulic 46
Product Code	H008
Company	Produced by - Exol Lubricants Limited All Saints Road Wednesbury, West Midlands, WS10 9TS
Preparation / Revision Date	October 2002
Application	Hydraulic fluidFor specific application advice see appropriate Technical Data Sheet or consult your Exol representative
Emergency Phone Number	+44 (0) 121 568 6800

2 HAZARDS IDENTIFICATION

This material is not considered to be hazardous, but should be handled in accordance with good industrial hygiene and safety practices.
Note: High Pressure Applications - Injections through the skin resulting from contact with the product at high pressure constitute a major medical emergency.
See 'Medical Advice' under First-Aid Measures, Section 4 of this Safety Data Sheet.

3 COMPOSITION/ INFORMATION ON INGREDIENTS

Chemical Composition	Highly refined mineral oil (IP 346 DMSO extract < 3%) Proprietary performance additives.
Hazardous Components	No component is present at sufficient concentration to require a hazardous classification.

4 FIRST AID MEASURES

Eyes	Wash eye thoroughly with copious quantities of water, ensuring eyelids are held open. Obtain medical advice if any pain or redness develops or persists.
Skin	Wash skin thoroughly with soap and water as soon as reasonably practicable. Remove heavily contaminated clothing and wash underlying skin.
Ingestion	If contamination of the mouth occurs, wash out thoroughly with water. Except as a deliberate act, the ingestion of large amounts of product is unlikely. If it should occur, do not induce vomiting, obtain medical advice.
Inhalation	If inhalation of mists, fumes or vapour causes irritation to the nose or throat, or coughing, remove to fresh air. If symptoms persist obtain medical advice.
Medical Advice	Treatment should in general be symptomatic and directed to relieving any effects.

Note: High Pressure Applications
Injections through the skin resulting from contact with the product at high pressure constitute a major medical emergency. Injuries may not appear serious at first but within a few hours tissue becomes swollen, discoloured and extremely painful with extensive subcutaneous necrosis. Surgical exploration should be undertaken without delay. Thorough and extensive debridement of the wound and underlying tissue is necessary to minimise tissue loss and prevent or limit permanent damage. Note that high pressure may force the product considerable distances along tissue planes.

5 FIRE-FIGHTING MEASURES

Use foam, dry powder or water fog. DO NOT USE water jets.
Fires in confined spaces should be dealt with by trained personnel wearing approved breathing apparatus. Water may be used to cool nearby heat exposed areas/objects/packages. Avoid spraying directly into storage

containers because of the danger of boil-over.

Combustion Products Toxic fumes may be evolved on burning or exposure to heat. See Stability and Reactivity, Section 10 of this Safety Data Sheet

6 ACCIDENTAL RELEASE MEASURES

Contain and recover spilled material using sand or other suitable inert absorbent material.
It is advised that stocks of suitable absorbent material should be held in quantities sufficient to deal with any spillage which may be reasonably anticipated.
Spilled material may make surfaces slippery. Protect drains from potential spills to minimise contamination. Do not wash product into drainage system.
In the case of large spills contact the appropriate authorities, or call 0121-568-6800
In the case of spillage on water, prevent the spread of product by the use of suitable barrier equipment. Recover product from the surface. Protect environmentally sensitive areas and water supplies.

7 HANDLING AND STORAGE

Handling Precautions Avoid contact with eyes. If splashing is likely to occur wear a full face visor or chemical goggles as appropriate. Avoid frequent or prolonged skin contact with fresh or used product.
Good working practices, high standards of personal hygiene and plant cleanliness must be maintained at all times. Wash hands thoroughly after contact.
Use disposable cloths and discard when soiled. Do not put soiled cloths into pockets

Fire Prevention Product contaminated rags, paper or material used to absorb spillages, represent a fire hazard, and should not be allowed to accumulate. Dispose of safely immediately after use

Storage Conditions Store under cover away from heat and sources of ignition.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits There is no appropriate occupational exposure limit for this material. Ensure good ventilation. Avoid, as far as reasonably practicable, inhalation of vapour, mists or fumes generated during use. If vapour, mists or fumes are generated, their concentration in the workplace air should be controlled to the lowest reasonably practicable level.

Protective Clothing Wear face visor or goggles in circumstances where eye contact can accidentally occur.
If skin contact is likely, wear impervious protective clothing and/or gloves. Protective clothing should be regularly dry cleaned. Change heavily contaminated clothing as soon as reasonably practicable; dry clean, launder and preferably starch before re-use. Wash any contaminated underlying skin with soap and water

Respiratory Protection Respiratory protection is unnecessary, provided the concentration of vapour, mists or fumes is adequately controlled. The use of respiratory equipment must be strictly in accordance with the manufacturers' instructions and any statutory requirements governing its selection and use.

9 PHYSICAL AND CHEMICAL PROPERTIES

Typical Values			
Grades:	**Test Method**	**Units**	46
Physical state			liquid
Colour			amber
Odour			oily
Density @ 20°C	ASTM D 1298	kg/m³	0.881
Kinematic viscosity @ 40°C	ASTM D 445	mm²/s	46.03
Kinematic viscosity @ 100°C	ASTM D 445	mm²/s	6.8
Flash point (COC)	ASTM D 92	°C	220

SAFETY DATA SHEET

10 STABILITY AND REACTIVITY

Stability
Products of this type are stable and unlikely to react in a hazardous manner under normal conditions of use. Hazardous polymerisation reactions will not occur. This material is combustible

Materials To Avoid
Avoid contact with strong oxidizing agents.

Hazardous Decomposition Products
Thermal decomposition products will vary with conditions. Incomplete combustion will generate smoke, carbon dioxide and hazardous gases, including carbon monoxide

11 TOXICOLOGICAL INFORMATION

Eyes
Unlikely to cause more than transient stinging or redness if accidental eye contact occurs.

Skin
Unlikely to cause harm to the skin on brief or occasional contact but prolonged or repeated exposure may lead to dermatitis.

Ingestion
Unlikely to cause harm if accidentally swallowed in small doses, though larger quantities may cause nausea and diarrhoea

Inhalation
At normal ambient temperatures this product will be unlikely to present an inhalation hazard because of its low volatility.
May cause irritation to eyes, nose and throat due to exposure to vapour, mists or fumes.
May be harmful by inhalation if exposure to vapour, mists or fumes resulting from thermal decomposition products occurs.

12 ECOLOGICAL INFORMATION

Mobility
Spillages may penetrate the soil causing ground water contamination.

Persistence/Degradability
This product is inherently biodegradable

Bio-Accumulation
There is no evidence to suggest bioaccumulation will occur.

Aquatic Toxicity
Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

13 DISPOSAL CONSIDERATIONS

Where possible, arrange for product to be recycled.
Dispose of via an authorised person/ licensed waste disposal contractor in accordance with local regulations.
Incineration may be carried out under controlled conditions provided that local regulations for emissions are met

14 TRANSPORT INFORMATION

Not classified as hazardous for transport (ADR, RID, UN , IMO, IATA/ICAO).

15 REGULATORY INFORMATION

Labelling Information — Not classified as hazardous for supply

16 OTHER INFORMATION

Compiled By

QSHE Department
Exol Lubricants Limited
All Saints Road
Wednesbury
West Midlands
WS10 9TS

SAFETY DATA SHEET

This data sheet and the health, safety and environmental information it contains is considered to be accurate as of the date specified below. We have reviewed any information contained herein which we received from sources outside of the Company. However, no warranty or representation, express or implied is made as to the accuracy or completeness of the data and information contained in this data sheet.

Health and safety precautions and environmental advice noted in this data sheet may not be accurate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. No statement made in this data sheet shall be construed as a permission, recommendation or authorisation given or implied to practise any patented invention without a valid licence. The Company shall not be responsible for any damage or injury resulting from abnormal use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material.

SAFETY DATA SHEET

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

Product name Castrol Spheerol L-EP 2

SDS # 453699

Product use Grease for industrial applications
For specific application advice see appropriate Technical Data Sheet or consult our company representative.

Supplier
Castrol (UK) Ltd.
Witan Gate House
500-600 Witan Gate
Central Milton Keynes
MK9 1ES
United Kingdom

EMERGENCY TELEPHONE NUMBER +44 (0) 1908 853000

2. Composition/information on ingredients

Highly refined mineral oil (IP 346 DMSO extract < 3%). Soap. Proprietary performance additives.

Chemical name	CAS no.	%	EINECS / ELINCS.	Classification
phosphorodithioic acid, O,O - di- C1-14- alkyl esters zinc salts	68649-42-3	1 - 5	272-028-3	Xi; R38, 41 N; R51/53

See section 16 for the full text of the R Phrases declared above
Occupational Exposure Limit(s), if available, are listed in Section 8

3. Hazards identification

The preparation is not classified as dangerous according to Directive 1999/45/EC as amended and adapted.

Physical/chemical hazards Not classified as dangerous.

Human health hazards Not classified as dangerous.

Environmental hazards Unlikely to be harmful to aquatic organisms.

Effects and symptoms

Eyes No significant health hazards identified.

Note: High Pressure Applications
Injections through the skin resulting from contact with the product at high pressure constitute a major medical emergency.
See 'Medical Advice' under First-Aid Measures, Section 4 of this Safety Data Sheet.

Skin No significant health hazards identified.

Inhalation No significant health hazards identified.

Ingestion No significant health hazards identified.

4. First aid measures

Eye Contact In case of contact, immediately flush eyes with a copious amount of water for at least 15 minutes. Get medical attention if irritation occurs.

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 if irritation develops.

Inhalation If inhaled, remove to fresh air. Get medical attention if symptoms appear.

Ingestion Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately.

Notes to physician Treatment should in general be symptomatic and directed to relieving any effects.

Note: High Pressure Applications
Injections through the skin resulting from contact with the product at high pressure constitute a major medical emergency. Injuries may not appear serious at first but within a few hours tissue becomes swollen, discoloured and extremely painful with extensive subcutaneous necrosis.
Surgical exploration should be undertaken without delay. Thorough and extensive debridement of the wound and underlying tissue is necessary to minimise tissue loss and prevent or limit permanent damage.
Note that high pressure may force the product considerable distances along tissue planes.

5. Fire-fighting measures

Extinguishing Media	
Suitable	Use foam or all-purpose dry chemicals to extinguish. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Suitable	Do not use water jet.
Unusual fire/explosion Hazards	None identified.
Protection of fire-fighters	Fire-fighters should wear self-contained positive pressure breathing apparatus (SCBA) and full turnout gear.

6. Accidental release measures

Personal Precautions	Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (Section 8). Follow all fire fighting procedures (Section 5).
Environmental precautions and clean-up methods	If emergency personnel are unavailable, contain spilled material. Suction or scoop the spill into appropriate disposal or recycling vessels, then cover spill area with oil absorbent. Place spilled material in an appropriate container for disposal. See Section 13 for Waste Disposal Information.
Personal protection in case of a large spill	Splash goggles. Full suit. Boots. Gloves.

7. Handling and storage

Handling	Wash thoroughly after handling. Avoid strong oxidizers.
Storage	Keep container tightly closed. Keep container in a cool, well-ventilated area.

8. Exposure controls/personal protection

Occupational exposure limits	This product does not have any assigned OELs.
Control Measures	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are close to the workstation location.
Hygiene measures	Wash hands after handling compounds and before eating, smoking, using lavatory, and at the end of day.
Personal protective equipment	
Respiratory system	None required; however, use of adequate ventilation is good industrial practice.
Skin and body	None required; however, use of protective clothing is good industrial practice.
Hands	None required; however, use of gloves is good industrial practice.
Eyes	Safety glasses with side shields.

9. Physical and chemical properties

Flash point	>200 °C (Open cup) Cleveland.
Colour	Amber.
Odour	Oily (Slight.)
Odour threshold	Not available.
Physical state	Grease
Density	1000 kg/m³ (1 g/cm³) at 15°C
Solubility	insoluble in water.
Viscosity	Kinematic: >150 mm²/s (>150 cSt) at 40°C

10. Stability and reactivity

Incompatibility with various substances	Reactive with oxidising agents.
Hazardous polymerization	Will not occur.

11 . Toxicological information

Acute toxicity	Unlikely to cause more than transient stinging or redness if accidental eye contact occurs. Unlikely to cause harm to the skin on brief or occasional contact but prolonged or repeated exposure may lead to dermatitis. Unlikely to cause harm if accidentally swallowed in small doses, though larger quantities may cause nausea and diarrhoea. At normal ambient temperatures this product will be unlikely to present an inhalation hazard because of it low volatility. May be harmful by inhalation if exposure to vapour, mists or fumes resulting from thermal decomposition products occurs.
Chronic toxicity Carcinogenic effects	No component of this product at levels greater than 0.1% is identified as a carcinogen by ACGIH, the International Agency for Research on Cancer (IARC) or the European Commission (EC).

12 . Ecological information

Persistence/degradability	Inherently biodegradable
Mobility	Spillages are unlikely to penetrate the soil.
Bioaccumulative potential	This product is not expected to bioaccumulate through food chains in the environment.
Environmental hazards	Unlikely to be harmful to aquatic organisms.
Other ecological information	Spillages are unlikely to penetrate the soil.

13 . Disposal considerations

Disposal Consideration / Waste information	Where possible, arrange for product to be recycled. Dispose of via an authorised person/ licensed waste disposal contractor in accordance with local regulations.

14 . Transport information

Not classified as hazardous for transport (ADR, RID, UN , IMO, IATA/ICAO).

15 . Regulatory information

Label Requirements	This product is not classified according to the EU regulations.
Risk Phrases EU Regulations	Classification and labelling have been performed according to EU directives1999/45/EC and 67/548/EEC as amended and adapted.
Other regulations Inventories	AUSTRALIAN INVENTORY (AICS): Not determined CANADA INVENTORY (DSL): Not determined. CHINA INVENTORY (IECS): Not determined. EC INVENTORY (EINECS/ELINCS): In compliance. JAPAN INVENTORY (ENCS): Not determined. KOREA INVENTORY (ECL): Not determined. PHILIPPINE INVENTORY (PICCS): Not determined. US INVENTORY (TSCA): Not determined.
Additional warning phrases	Safety data sheet available for professional user on request.

16 . Other information

Full text of R-phrases appearing in section 2 :	R38- Irritating to skin. R41- Risk of serious damage to eyes. R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
History	
Date of issue	19/12/2003.
Date of previous issue	19/12/2003.
Prepared by	Product Stewardship Group
Notice to reader	

he 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 ther application. Use of the product for applications other than as stated in this sheet may give rise to risks not mentioned in this sheet. You hould not use the product other than for the stated application or applications without seeking advice from us.

f you have purchased the product for supply to a third party for use at work, it is your duty to take all necessary steps to secure that any person andling or using the product is provided with the information in this sheet.

f yo 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.

Further copies of this Safety Data Sheet may be obtained from Castrol International.

SAFETY DATA SHEET

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

Product name Castrol Tection Medium Duty 15W-40

SDS no. 464994

Product use Diesel engine oil.
For specific application advice see appropriate Technical Data Sheet or consult our company representative.

Supplier
Castrol (UK) Ltd
Wakefield House
Pipers Way
Swindon
Wiltshire SN3 1RE

EMERGENCY TELEPHONE NUMBER Carechem: +44 (0) 208 762 8322 (24 hours)

2. Composition/information on ingredients

Highly refined base oil (IP 346 DMSO extract < 3%). Proprietary performance additives.

This product does not contain any hazardous ingredients at or above regulated thresholds.

3. Hazards identification

This preparation is not classified as dangerous according to Directive 1999/45/EC as amended and adapted.

Physical/chemical hazards Not classified as dangerous.

Human health hazards Not classified as dangerous.

Environmental hazards Unlikely to be harmful to aquatic organisms.

Effects and symptoms

Eyes No significant health hazards identified.

Skin No significant health hazards identified.

USED ENGINE OILS
Used engine oil may contain hazardous components which have the potential to cause skin cancer.
See Toxicological Information, section 11 of this Safety Data Sheet.

Inhalation No significant health hazards identified.

Ingestion No significant health hazards identified.

4. First-aid measures

Eye contact In case of contact, immediately flush eyes with a copious amount of water for at least 15 minutes. Get medical attention if irritation occurs.

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 if irritation develops.

Inhalation If inhaled, remove to fresh air. Get medical attention if symptoms appear.

Ingestion Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately.

Notes to physician Treatment should in general be symptomatic and directed to relieving any effects.

5. Fire-fighting measures

Extinguishing media	
Suitable	In case of fire, use foam, dry chemical or carbon dioxide extinguisher or spray.
Not suitable	Do not use water jet.
Hazardous decomposition products	These products are carbon oxides (CO, CO_2) (carbon monoxide, carbon dioxide).
Special fire-fighting procedures	None identified.
Protection of fire-fighters	Fire-fighters should wear self-contained positive pressure breathing apparatus (SCBA) and full turnout gear.

6. Accidental release measures

Personal precautions	Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (See Section: "Exposure controls/personal protection"). Follow all fire fighting procedures (See Section: "Fire-fighting measures").
Environmental precautions and clean-up methods	If emergency personnel are unavailable, contain spilled material. For small spills add absorbent (soil may be used in the absence of other suitable materials) scoop up material and place in a sealed, liquid-proof container for disposal. For large spills dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal. Minimize contact of spilled material with soils to prevent runoff to surface waterways. See Section 13 for Waste Disposal Information.
Personal protection in case of a large spill	Splash goggles. Full suit. Boots. Gloves.

7. Handling and storage

Handling	Wash thoroughly after handling.
Storage	Keep container tightly closed. Keep container in a cool, well-ventilated area.
Not suitable	Prolonged exposure to elevated temperature.

8. Exposure controls/personal protection

Occupational exposure limits

Ingredient name	
Base oil - unspecified	**EH40 (United Kingdom (UK)).** STEL: 10 mg/m³ 15 minute(s). Form: Oil mist, mineral TWA: 5 mg/m³ 8 hour(s). Form: Oil mist, mineral

Whilst specific OELs for certain components are included in the SDS, it should be noted that other components of the preparation will be present in any mist, vapour or dust produced. For this reason, the specific OELs may not be applicable to the product and are provided for guidance purposes.

Control Measures

Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are close to the workstation location.

All chemicals should be assessed for their risks to health and appropriate control measures put in place to prevent or adequately control exposure. A hierarchy of control measures exists (e.g. elimination, substitution, general ventilation, containment, systems of work, changing the process or activity) that must be considered before use of personal protective equipment. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained.
Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. Relevant information can be obtained from the European Committee for Standardisation http://www.cenorm.be/cenorm/index.htm.

The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

Personal protective equipment

Respiratory system	Respiratory protective equipment is not normally required where there is adequate natural or local exhaust ventilation to control exposure. In case of insufficient ventilation, wear suitable respiratory equipment. Respiratory protective equipment must be checked to ensure it fits correctly each time it is worn. Air-filtering respirators, also called air-purifying respirators, will not be adequate under conditions of oxygen deficiency (i.e. low oxygen concentration), and would not be considered suitable where airborne concentrations of chemicals with a significant hazard are present. In these cases air-supplied breathing apparatus will be required. Provided an air-filtering/air-purifying respirator is suitable, a filter for particulates can be used for mist or fume. Use filter type P or comparable standard. A combination filter for particles and organic gases and vapours (boiling point >65°C) may be required if vapour or abnormal odour is also present due to high product temperature. Use filter type AP or comparable standard.
Skin and body	Use of protective clothing is good industrial practice. Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that will not soak through to the skin. Overalls should be laundered on a regular basis. When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required.
Hands	Wear protective gloves if prolonged or repeated contact is likely. Wear chemical resistant gloves. Recommended: nitrile gloves Protective gloves will deteriorate over time due to physical and chemical damage. Inspect and replace gloves on a regular basis. The frequency of replacement will depend upon the circumstances of use.
Eyes	Safety glasses with side shields.

9 . Physical and chemical properties

Flash point	228 °C (Open cup)
Pour point	-42 °C
Colour	Amber.
Odour	Oily.
Physical state	Liquid.
Density	887 kg/m^3 (0.887 g/cm^3) at 15°C
Solubility	Insoluble in water.
$LogK_{ow}$	The product is more soluble in octanol; log(octanol/water) >3
Viscosity	Kinematic: 108 mm^2/s (108 cSt) at 40°C Kinematic: 14.6 mm^2/s (14.6 cSt) at 100°C

10 . Stability and reactivity

Incompatibility with various substances	Reactive with oxidising agents.
Hazardous polymerisation	Will not occur.
Hazardous decomposition products	These products are carbon oxides (CO, CO_2) (carbon monoxide, carbon dioxide).

11 . Toxicological information

Acute toxicity	Unlikely to cause more than transient stinging or redness if accidental eye contact occurs. Unlikely to cause harm to the skin on brief or occasional contact but prolonged or repeated exposure may lead to dermatitis. Unlikely to cause harm if accidentally swallowed in small doses, though larger quantities may cause nausea and diarrhoea. At normal ambient temperatures this product will be unlikely to present an inhalation hazard because of its low volatility. May be harmful by inhalation if exposure to vapour, mists or fumes resulting from thermal decomposition products occurs.
Chronic toxicity	
Other chronic toxicity data	

Carcinogenic effects	USED ENGINE OILS Combustion products resulting from the operation of internal combustion engines contaminate engine oils during use. Used engine oil may contain hazardous components which have the potential to cause skin cancer. Frequent or prolonged contact with all types and makes of used engine oil must therefore be avoided and a high standard of personal hygiene maintained. No component of this product at levels greater than or equal to 0.1% is identified as a carcinogen by ACGIH, the International Agency for Research on Cancer (IARC) or the European Commission (EC).

12 . Ecological information

Persistence/degradability	Inherently biodegradable.
Mobility	Spillages may penetrate the soil causing ground water contamination.
Bioaccumulative potential	This product is not expected to bioaccumulate through food chains in the environment.
Environmental hazards	Unlikely to be harmful to aquatic organisms.
Other ecological information	Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

13 . Disposal considerations

Disposal Consideration / Waste information	Where possible, arrange for product to be recycled. Dispose of via an authorised person/ licensed waste disposal contractor in accordance with local regulations.

14 . Transport information

Not classified as hazardous for transport (ADR/RID, ADNR, IMDG, ICAO/IATA)

15 . Regulatory information

Label requirements	This product is not classified according to the EU regulations.
Risk phrases EU regulations	Classification and labelling have been performed according to EU directives 1999/45/EC and 67/548/EEC as amended and adapted.
Other regulations Inventories	AUSTRALIAN INVENTORY (AICS): In compliance. CANADA INVENTORY (DSL): In compliance. CHINA INVENTORY (IECS): In compliance. EC INVENTORY (EINECS/ELINCS): In compliance. JAPAN INVENTORY (ENCS): In compliance. KOREA INVENTORY (ECL): In compliance. PHILIPPINE INVENTORY (PICCS): In compliance. US INVENTORY (TSCA): In compliance.

16 . Other information

History	
Date of issue	18/09/2006.
Date of previous issue	No Previous Validation.
Prepared by	Product Stewardship Group
Notice to reader	

Revision Indicator: The presence of a triangle in the upper left corner of a field indicates a change since the previous version.

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for stated application or applications without seeking advice from us.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken.

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

Product name: SUPER COLDMASTER CONCENTRATE

Product code: SCA***L

Company name: Comma Oil & Chemicals Ltd.
Dering Way
Gravesend
Kent
DA12 2QX
Tel: +44 01474 564311
Fax: +44 01474 333000

2. HAZARDS IDENTIFICATION

Main hazards: Harmful if swallowed.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous ingredients: ETHYLENE GLYCOL >60%
EINECS: 203-473-3 CAS: 107-21-1
[Xn] R22

- DISODIUM TETRABORATE PENTAHYDRATE 1-5%
EINECS: 215-540-4 CAS: 12179-04-3
[T] R60; [T] R61

Contains: Hazardous ingredients present at or above regulatory disclosure limits.
This product contains (a) substance(s) included on the candidate list according to article 59 (1,10) of regulation EC No. 1907/2006 ('REACH') in a concentration above 0.1% w/w: disodium tetraborate pentahydrate; borax pentahydrate.

4. FIRST AID MEASURES (SYMPTOMS)

Skin contact: There may be mild irritation at the site of contact.

Eye contact: There may be irritation and redness.

Ingestion: There may be soreness and redness of the mouth and throat. There may be difficulty swallowing. Nausea and stomach pain may occur. There may be vomiting.

Inhalation: Absorption through the lungs can occur causing symptoms similar to those of ingestion.

4. FIRST AID MEASURES (ACTION)

Skin contact: Wash immediately with plenty of soap and water.

Eye contact: Bathe the eye with running water for 15 minutes.

Ingestion: Wash out mouth with water. Do not induce vomiting. If conscious, give half a litre 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...]

5. FIRE-FIGHTING MEASURES

Extinguishing media: Water fog. Alcohol resistant foam. Dry chemical powder. Carbon dioxide.

Exposure hazards: In combustion emits toxic fumes.

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: Refer to section 8 of SDS for personal protection details. Turn leaking containers leak-side up to prevent the escape of liquid.

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.

7. HANDLING AND STORAGE

Handling requirements: Avoid the formation or spread of mists in the air. Avoid direct contact with the substance.

Storage conditions: Store in cool, well ventilated area. Keep container tightly closed.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Hazardous ingredients: ETHYLENE GLYCOL
WEL (8 hr TWA): 52 mg/m3 WEL (15 min STEL): 104 mg/m3

Respiratory protection: Respiratory protection not required.

Hand protection: Protective gloves.

Eye protection: Safety glasses.

PHYSICAL AND CHEMICAL PROPERTIES

State: Liquid

Colour: Blue

Odour: Odourless

Solubility in water: Soluble

Boiling point/range°C: 165

Flash point°C: 111

Relative density: 1.127 @ 20 C

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Conditions to avoid: Heat.

Materials to avoid: Strong oxidising agents. Strong acids.

Haz. decomp. products: In combustion emits toxic fumes.

[cont...]

11. TOXICOLOGICAL INFORMATION

Hazardous ingredients: ETHYLENE GLYCOL
IVN RAT LD50 3260 mg/kg
ORL MUS LD50 5500 mg/kg
ORL RAT LD50 4700 mg/kg

Routes of exposure: Refer to section 4 of SDS for routes of exposure and corresponding symptoms.

12. ECOLOGICAL INFORMATION

Mobility: Readily absorbed into soil.

ers..ence and degradability: No data available.

Bioaccumulative potential: No data available.

13. DISPOSAL CONSIDERATIONS

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: Not Classified.

IMDG / IMO

UN no: Not Classified.

A / ICAO

UN no: Not Classified.

15. REGULATORY INFORMATION

Hazard symbols: Harmful.

Risk phrases: R22: Harmful if swallowed.

Safety phrases: S2: Keep out of the reach of children.
S46: If swallowed, seek medical advice immediately and show this container or label.

Haz. ingredients (label): ETHYLENE GLYCOL

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.

[cont...]

16. OTHER INFORMATION

Risk phrases used in s.3: R22: Harmful if swallowed.
R60: May impair fertility.
R61: May cause harm to the unborn child.

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.

[final page]

SUPERCOLDMASTER

APPLICATION

- A Mono Ethylene Glycol (MEG) based engine coolant / anti-freeze concentrate.
- Suitable for use in all types of vehicle requiring an MEG coolant.

PROPERTIES

- Protects for 2 years.
- Helps prevent winter freezing and summer boil over. Also improves heat transfer.
- Pure glycol formulation contains no flammable alcohol or methanol.
- NAP (Nitrite, Phosphate and Amine) free.
- Suitable for Ferrous and Aluminium engines.
- Meets BS6580 – 1992, ASTM D1384, D2750 and D4340, SAE J1034.

TYPICAL INSPECTION DATA

Appearance	Clear blue liquid
Specific Gravity @ 20°C	1.123
Boiling Point	Min 155 °C

Protection levels

Supercoldmaster (%)	Approx. Protection (°C)
25	-11
33	-18
50	-34

DIRECTIONS FOR USE

- Dilute with water, as recommended by your vehicle handbook.
- Minor spills should be soaked up with oil absorbent granules, sand or dirt. The spillage site should then be washed with soapy water and dried.

HANDLING

- Wash off any spillage on paintwork immediately.
- Keep away from foodstuffs and oxidising agents.
- Store in airtight container.
- Avoid galvanised containers for storage or dispensing as they will corrode and contaminate the product.

SHELF LIFE

- 3 years from date of manufacture.
- Manufacture date can be identified from a five figure code printed on the bottle. The first three figures indicate the consecutive day of the year, the last two figures the year.

md 14/04/2009

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

As of the revision date above, this (M)SDS meets the regulations in the United Kingdom & Ireland.

PRODUCT

Product Name: MOBILGREASE XHP 222
Product Description: Base Oil and Additives
Product Code: 2015A0202530, 405295, 530436-60
Intended Use: Grease

COMPANY IDENTIFICATION

Supplier: EXXONMOBIL LUBRICANTS & SPECIALTIES EUROPE, A DIVISION OF EXXONMOBIL PETROLEUM & CHEMICAL, BVBA (EMPC)
POLDERDIJKWEG
B-2030 Antwerpen
Belgium

24 Hour Environmental / Health Emergency (UK) 01372 222 000 / (IRELAND) 44 1372 222 000
Telephone
e-mail SDS-UK@EXXONMOBIL.COM

SECTION 2 HAZARDS IDENTIFICATION

This material is not considered to be hazardous according to regulatory guidelines see Section 15.

HEALTH HAZARDS

Low order of toxicity. Excessive exposure may result in eye, skin, or respiratory irritation. High-pressure injection under skin may cause serious damage.

Note: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Reportable Hazardous Substance(s) or Complex Substance(s)

Name	CAS#	EINECS / ELINCS	Concentration *	Symbols/Risk Phrases
ZINC DIALKYL DITHIOPHOSPHATE	68457-79-4	270-608-0	< 2.5%	Xi;R38, Xi;R41, N;R51/53

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

SECTION 4 FIRST AID MEASURES

INHALATION
Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation. Under normal conditions of intended use, this material is not expected to be an inhalation hazard.

SKIN CONTACT
Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT
Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION
First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA
Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight streams of water

FIRE FIGHTING
Fire Fighting Instructions: Evacuate area. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Aldehydes, Oxides of carbon, Sulphur Oxides, Smoke, Fume, Incomplete combustion products

FLAMMABILITY PROPERTIES
Flash Point [Method]: >204C (400F) [EST. FOR OIL, ASTM D-92 (COC)]
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

SPILL MANAGEMENT

Land Spill: Allow spilled material to solidify and shovel it up into a suitable container for recycle or disposal. Scrape up spilled material with shovels into a suitable container for recycle or disposal.

Water Spill: Stop leak if you can do so without risk. Confine the spill immediately with booms. Warn other shipping. Skim from surface

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Prevent small spills and leakage to avoid slip hazard.

Static Accumulator: This material is not a static accumulator.

STORAGE

Do not store in open or unlabelled containers.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Note: Information about recommended monitoring procedures can be obtained from the relevant agency(ies)/institute(s):

UK Health and Safety Executive (HSE)

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a

level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No protection is ordinarily required under normal conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

See Sections 6, 7, 12, 13.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

GENERAL INFORMATION

Physical State: Solid
Form: semi-fluid
Colour: dark blue
Odour: Characteristic
Odour Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 C): 0.88
Flash Point [Method]: >204C (400F) [EST. FOR OIL, ASTM D-92 (COC)]
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/D
Boiling Point / Range: > 316C (600F)
Vapour Density (Air = 1): N/D
Vapour Pressure: < 0.013 kPa (0.1 mm Hg) at 20°C

Evaporation Rate (N-Butyl Acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: 220 cSt (220 mm²/sec) at 40°C
Oxidising properties: See Sections 3, 15, 16.

OTHER INFORMATION
Freezing Point: N/D
Melting Point: N/D
DMSO Extract (mineral oil only), IP-346: < 3 %wt

Note: Most physical properties above are for the oil component in the material.

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

MATERIALS TO AVOID: Strong oxidisers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Acute Toxicity

Route of Exposure	Conclusion / Remarks
INHALATION	
Toxicity: No end point data.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data.	Negligible hazard at ambient/normal handling temperatures. Based on assessment of the components.
INGESTION	
Toxicity: LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Skin	
Toxicity: LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Irritation: Data available.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Irritation: Data available.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.

CHRONIC/OTHER EFFECTS
Contains:

Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitising in test animals.

Additional information is available by request.

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

European Waste Code: 12 01 12

NOTE: These codes are assigned based upon the most common uses for this material and may not reflect contaminants resulting from actual use. Waste producers need to assess the actual process used when generating the waste and its contaminants in order to assign the proper waste disposal code(s).

This material is considered as hazardous waste pursuant to Directive 91/689/EEC on hazardous waste, and subject to the provisions of that Directive unless Article 1(5) of that Directive applies.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and

can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (ADR/RID) : Not Regulated for Land Transport

INLAND WATERWAYS (ADNR) : Not Regulated for Inland Waterways Transport

SEA (IMDG) : Not Regulated for Sea Transport according to IMDG-Code

AIR (IATA) : Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

Material is not dangerous as defined by the EU Dangerous Substances/Preparations Directives.

EU LABELING: Not regulated according to EC Directives

REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS

Complies with the following national/regional chemical inventory requirements: EINECS

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable
KEY TO THE RISK CODES CONTAINED IN SECTION 2 AND 3 OF THIS DOCUMENT (for information only):
R38; Irritating to skin.
R41; Risk of serious damage to eyes.
R51/53; Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Revision Changes:
Section 06: Notification Procedures - Header was modified.
Section 13: Empty Container Warning was modified.
Section 09: Phys/Chem Properties Note was modified.
Section 09: Boiling Point °C(°F) was modified.
Section 08: Hand Protection was modified.
Section 08: Environmental Control - Note was modified.
Section 06: Accidental Release - Spill Management - Water was modified.

Section 09: Relative Density - Header was modified.
Section 09: Flash Point °C(°F) was modified.
Section 08: Environmental Control - Note was modified.
Section 16: Code to MHCs was modified.
Section 11: Inhalation Lethality Test Data was modified.
Section 11: Oral Lethality Test Data was modified.
Section 11: Dermal Lethality Test Data was modified.
Section 01: Company Contact Methods Sorted by Priority was modified.

%%revision_comment%%

Internal Use Only
MHC: 0B, 0B, 0, 0, 0, 0
PPEC: A

DGN: 2006155XGB (550270)

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

As of the revision date above, this (M)SDS meets the regulations in the United Kingdom & Ireland.

PRODUCT

Product Name: NUTO H 46
Product Description: Base Oil and Additives
Product Code: 20156010H530, 406998, 583203-60
Intended Use: Hydraulic fluid

COMPANY IDENTIFICATION

Supplier: EXXONMOBIL LUBRICANTS & SPECIALTIES EUROPE, A DIVISION OF EXXONMOBIL PETROLEUM & CHEMICAL, BVBA (EMPC)
POLDERDIJKWEG
B-2030 Antwerpen
Belgium

24 Hour Environmental / Health Emergency (UK) 01372 222 000 / (IRELAND) 44 1372 222 000
Telephone
e-mail SDS-UK@EXXONMOBIL.COM

SECTION 2 HAZARDS IDENTIFICATION

This material is not considered to be hazardous according to regulatory guidelines see Section 15.

HEALTH HAZARDS

Low order of toxicity. Excessive exposure may result in eye, skin, or respiratory irritation. High-pressure injection under skin may cause serious damage.

Note: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

No Reportable Hazardous Substance(s) or Complex Substance(s).

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT
Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT
Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION
First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA
Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight streams of water

FIRE FIGHTING
Fire Fighting Instructions: Evacuate area. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Pressurised mists may form a flammable mixture.

Hazardous Combustion Products: Aldehydes, Hydrogen Sulphide, Smoke, Fume, Sulphur Oxides, Oxides of carbon, Incomplete combustion products

FLAMMABILITY PROPERTIES
Flash Point [Method]: 212C (414F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES
In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

SPILL MANAGEMENT
Land Spill: Stop leak if you can do so without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do so without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dyke far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Prevent small spills and leakage to avoid slip hazard.

Static Accumulator: This material is a static accumulator.

STORAGE

Do not store in open or unlabelled containers.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits/standards for materials that can be formed when handling this product: When mists / aerosols can occur, the following are recommended: 5 mg/m³ - ACGIH TLV, 10 mg/m³ - ACGIH STEL.

Note: Information about recommended monitoring procedures can be obtained from the relevant agency(ies)/institute(s):

UK Health and Safety Executive (HSE)

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions.
Control measures to consider:
No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

See Sections 6, 7, 12, 13.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

GENERAL INFORMATION

Physical State: Liquid
Colour: brown
Odour: Characteristic
Odour Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 C): 0.876
Flash Point [Method]: 212C (414F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: N/D
Vapour Density (Air = 1): > 2 at 101 kPa
Vapour Pressure: < 0.013 kPa (0.1 mm Hg) at 20°C
Evaporation Rate (N-Butyl Acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible

Viscosity: 46 cSt (46 mm²/sec) at 40°C | 6.7 cSt (6.7 mm²/sec) at 100C
Oxidising properties: See Sections 3, 15, 16.

OTHER INFORMATION
Freezing Point: N/D
Melting Point: N/A
Pour Point: -18°C (0°F)
DMSO Extract (mineral oil only), IP-346: < 3 %wt

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

MATERIALS TO AVOID: Strong oxidisers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Acute Toxicity

Route of Exposure	Conclusion / Remarks
INHALATION	
Toxicity: LC50 > 5000 mg/m3	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data.	Negligible hazard at ambient/normal handling temperatures. Based on assessment of the components.
INGESTION	
Toxicity: LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Skin	
Toxicity: LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Irritation: Data available.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Irritation: Data available.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.

CHRONIC/OTHER EFFECTS
Contains:
Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitising in test animals.

Additional information is available by request.

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

European Waste Code: 13 02 05

NOTE: These codes are assigned based upon the most common uses for this material and may not reflect contaminants resulting from actual use. Waste producers need to assess the actual process used when generating the waste and its contaminants in order to assign the proper waste disposal code(s).

This material is considered as hazardous waste pursuant to Directive 91/689/EEC on hazardous waste, and subject to the provisions of that Directive unless Article 1(5) of that Directive applies.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (ADR/RID) : Not Regulated for Land Transport

INLAND WATERWAYS (ADNR) : Not Regulated for Inland Waterways Transport

SEA (IMDG) : Not Regulated for Sea Transport according to IMDG-Code

AIR (IATA) : Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

Material is not dangerous as defined by the EU Dangerous Substances/Preparations Directives.

EU LABELING: Not regulated according to EC Directives

REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS

Complies with the following national/regional chemical inventory requirements: EINECS

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

Revision Changes:
Section 06: Notification Procedures - Header was modified.
Section 08: Hand Protection was modified.
Section 08: Environmental Control - Note was modified.
Section 08: Environmental Control - Note was modified.
Section 16: Code to MHCs was modified.
Section 11: Oral Lethality Test Data was modified.
Section 11: Dermal Lethality Test Data was modified.
Section 01: Company Contact Methods Sorted by Priority was modified.

%%revision_comment%%

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Internal Use Only
MHC: 0B, 0B, 0, 0, 0, 0

PPEC: A

DGN: 2006862XGB (546573)

HEALTH AND SAFETY DATA SHEET

A. SUBSTANCE IDENTIFICATION/PREPARATION AND COMPANY

Product Name: Super Blue High Temperature Grease **Code:** FF128

Supplier:
Maintenance Direct Europe Ltd
Unit 1 Greenview Business Park
Edgar Industrial Estate
Carryduff
BT8 8AN

NI & UK **Tel: 028 90 817081**
Fax: 028 90 817447

ROI **Tel: 0044 2890 817081**
Fax: 0044 2890 817447

Product Description: A specially developed high temperature blue grease for all anti friction and plain bearing applications.

B. COMPOSITION/INFORMATION

This product conforms to the latest specifications and is approved by leading bearing and automotive manufacturers for both industrial and automotive use.

- Good mechanical stability
- Good oxidisation stability
- Corrosion resistant
- Excellent load carrying properties
- Wide temperature range
- Good pump ability
- Impact resistant
- Compatible with other lubricating greases

C. HAZARD IDENTIFICATION

This product is classed as non-hazardous under Chemicals (Hazard Information and Packaging) Regulations 1993, however commonsense precautions must be observed.

D. PHYSICAL AND CHEMICAL PROPERTIES

Tacky blue grease

Odour:	None
pH:	N/A
Density @ 20oC:	N/A
Flash Point:	280oC
Solubility in water	Non soluble

TYPICAL PHYSICAL PROPERTIES

Work penetration:	265-295
Roll stability:	265-340
Dropping Point	270oC
Timkin OK load 45lbs	
Oil separation	4%
Copper corrosion	1b

Base oil visc	180cst
Base oil vis index	96

TYPICAL PHYSICAL PROPERTIES CONTINUED.....

Water washout	1.3%
Operating range	-30 to +200 oC
Four balls weld load	450 kg
Wear load index	62

E. FIRST AID MEASURES

EYES: Rinse immediately with large quantities of clean water. If irritation persists, seek medical attention.

SKIN: Wash with soap and water.

INHALATION: Move patient to fresh air. Seek medical attention if difficulties persist.

F. EXPOSURE CONTROLS/PERSONAL PROTECTION

Use only according to directions.

Long-term exposure limit (8 hours) 5 mg m-3
Short-term exposure limit (15 minutes) 10 mg m-3

G. TOXICOLOGICAL INFORMATION

No significant health hazards when properly used for the application are was designed for.

Effects due to over exposure when:

IN CONTACT WITH EYES: Product will cause irritation and redness.
IN CONTACT WITH SKIN: Prolonged contact may cause slight irritation.
INGESTED: Accidental ingestion is unlikely due to the nature of the product and packaging.

H. ACCIDENTAL RELEASE MEASURES

Spillages need to be contained to prevent entering watercourse. Absorb spillage in inert material eg dry sand/earth and transfer into a secure plastic container (s) for disposal.

I. HANDLING AND STORAGE

- Store away from children.
- Store in a dry store in an upright position away from sources of heat including the sun.
- Store away from flammable and corrosive products.

J. FIRE FIGHTING MEASURES

Product is not flammable, however irritating fumes may be given off in the event of fire. Treat fires either with dry chemicals, foam or water spray, do not use water jet.

K. STABILITY AND REACTIVITY

Compatible with other lubricating greases.

L. ECOLOGICAL INFORMATION

May be harmful to aquatic organisms.

M. DISPOSAL CONSIDERATIONS

Dispose according to local regulations.

N. TRANSPORT INFORMATION

UN No.:	N/A	CDG, CPL:	N/A
Hazard Class:	N/A	Trem Card:	N/A
(ADR, IATA):	Not classified	Packaging Group:	N/A

O. REGULATORY INFORMATION

Product Class:	Non hazardous under CHIP Regulations.
Risk Phrases:	Do not burn after use.
Safety Phrases:	2. Keep out of reach of children.

P. OTHER INFORMATION

The responsibility to ensure safe working conditions within the workplace remains with the user. The health hazard and general information contained within this Material Safety Data Sheet are given as a guide to the precautions required to maintain a safe work environment.

REVISION DATE: 01-2006

SAFETY DATA SHEET
WD40 AEROSOL

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

PRODUCT NAME: WD40 AEROSOL

SUPPLIER:
WD40 Company Limited
PO Box 440
Kiln Farm
Milton Keynes
MK11 3LF
Tel: 01908 555400
Fax: 01908 266900

2 COMPOSITION/INFORMATION ON INGREDIENTS

Name	EC No.	CAS-No.	Content	Classification
CARBON DIOXIDE	204-696-9	124-38-9	1-5%	-
PETROLEUM DISTILLATE	265-150-3	64742-48-9	60-100%	Xn;R65. R10,R66.

The Full Text for all R-Phrases are Displayed in Section 16

3 HAZARDS IDENTIFICATION

Flammable. Repeated exposure may cause skin dryness or cracking.

CLASSIFICATION: R10, R66.

HUMAN HEALTH

This substance has no evidence of carcinogenic properties.

4 FIRST-AID MEASURES

INHALATION

Move the exposed person to fresh air at once. Keep the affected person warm and at rest. Get prompt medical attention.

INGESTION

DO NOT INDUCE VOMITING! NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS! Immediately rinse mouth and drink plenty of water (200-300 ml). Get medical attention.

SKIN CONTACT

Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention promptly if symptoms occur after washing.

EYE CONTACT

Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

5 FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA

Use: Foam. Water spray, fog or mist. Dry chemicals, sand, dolomite etc.

SPECIAL FIRE FIGHTING PROCEDURES

Containers close to fire should be removed or cooled with water. Avoid water in straight hose stream; will scatter and spread fire.

UNUSUAL FIRE & EXPLOSION HAZARDS

Aerosol cans may explode in a fire.

SPECIFIC HAZARDS

Fire or high temperatures create: Carbon monoxide (CO). Carbon dioxide (CO_2).

PROTECTIVE MEASURES IN FIRE

Self contained breathing apparatus and full protective clothing must be worn in case of fire.

6 ACCIDENTAL RELEASE MEASURES

WD40 AEROSOL

PERSONAL PRECAUTIONS

Wear protective clothing as described in Section 8 of this safety data sheet.

SPILL CLEAN UP METHODS

Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Absorb with inert, damp, non-combustible material, then flush area with water.

7 HANDLING AND STORAGE

USAGE PRECAUTIONS

Keep away from heat, sparks and open flame. Avoid inhalation of vapours/spray and contact with skin and eyes.

STORAGE PRECAUTIONS

Aerosol cans: Must not be exposed to direct sunlight or temperatures above 50°C.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Name	Std	LT - ppm	LT - mg/m3	ST - ppm	ST - mg/m3
CARBON DIOXIDE			Asphyxiating		Asphyxiating

PROTECTIVE EQUIPMENT

ENGINEERING MEASURES

Provide adequate ventilation.

HAND PROTECTION

Use suitable protective gloves if risk of skin contact. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.

EYE PROTECTION

Wear approved chemical safety goggles where eye exposure is reasonably probable.

HYGIENE MEASURES

DO NOT SMOKE IN WORK AREA! Promptly remove any clothing that becomes contaminated. Wash promptly if skin becomes contaminated. When using do not eat, drink or smoke.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Liquid Aerosol		
COLOUR	Light (or pale) Amber		
ODOUR	Characteristic		
SOLUBILITY	Insoluble in water		
RELATIVE DENSITY	0.817 @ 21°C	VAPOUR DENSITY (air=1)	> 1
VAPOUR PRESSURE	95-105 psi @ 21°C	VOLATILE BY VOL. (%)	78%
FLASH POINT (°C)	44°C TOC (Tag open cup).	FLAMMABILITY LIMIT - LOWER(%)	0.6%
FLAMMABILITY LIMIT - UPPER(%)	8.0%		

10 STABILITY AND REACTIVITY

STABILITY

Stable under normal temperature conditions and recommended use.

CONDITIONS TO AVOID

Aerosol cans: Must not be exposed to direct sunlight or temperatures above 50°C.

HAZARDOUS DECOMPOSITION PRODUCTS

During fire, toxic gases (CO, CO2) are formed.

11 TOXICOLOGICAL INFORMATION

INHALATION

Vapours may cause headache, fatigue, dizziness and nausea.

SKIN CONTACT

Repeated exposure may cause skin dryness or cracking.

EYE CONTACT

Spray and vapour in the eyes may cause irritation and smarting.

Other Health Effects

This substance has no evidence of carcinogenic properties.

12 ECOLOGICAL INFORMATION

ECOTOXICITY

The product contains substances which contribute to global warming (greenhouse effect).

BIOACCUMULATION

The product contains potentially bioaccumulating substances.

DEGRADABILITY

The product is easily biodegradable.

13 DISPOSAL CONSIDERATIONS

DISPOSAL METHODS

Dispose of waste and residues in accordance with local authority requirements. Make sure containers are empty before discarding (explosion risk).

14 TRANSPORT INFORMATION

UK ROAD CLASS	2.1		
PROPER SHIPPING NAME	AEROSOLS		
UN NO.'ROAD	1950	UK ROAD PACK GR.	#
ADR CLASS NO.	2.1	ADR CLASS	Class 2: Gases
ADR PACK GROUP	#	ADR LABEL NO.	2.1
CEFIC TEC(R) NO.	20G5F	RID CLASS NO.	2.1
RID PACK GROUP	#	UN NO. SEA	1950
IMDG CLASS	2.1	IMDG PACK GR.	#
EMS	F-D, S-U	MARINE POLLUTANT	No.
UN NO. AIR	1950	AIR CLASS	2.1
AIR PACK GR.	#		

15 REGULATORY INFORMATION

CONTAINS PETROLEUM DISTILLATE

RISK PHRASES

R10	Flammable.
R66	Repeated exposure may cause skin dryness or cracking.

SAFETY PHRASES

S2	Keep out of the reach of children
S16	Keep away from sources of ignition - No smoking.
S23	Do not breathe vapour/spray.
S37	Wear suitable gloves.
S51	Use only in well-ventilated areas.
A1	Pressurised container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use.
A2	Do not spray on a naked flame or any incandescent material.

WD40 AEROSOL

STATUTORY INSTRUMENTS

Control of Substances Hazardous to Health. Chemicals (Hazard Information and Packaging) Regulations.

APPROVED CODE OF PRACTICE

Classification and Labelling of Substances and Preparations Dangerous for Supply. Safety Data Sheets for Substances and Preparations.

GUIDANCE NOTES

CHIP for everyone HSG(108). Workplace Exposure Limits EH40

16 OTHER INFORMATION

REVISION DATE 01-2006

REV. NO./REPL. SDS GENERATED 1 / 03-2002

RISK PHRASES IN FULL

NC	Not classified.
R10	Flammable.
R65	Harmful: may cause lung damage if swallowed.
R66	Repeated exposure may cause skin dryness or cracking.

Attachment G.2 Energy Efficiency

OTCL uses machine gas oil, electricity and water in the operation of the facility. Water is reused in the composting process. Leachate from the process is recirculated into the scrubbers and used as moisture in the composting tunnels.

Gasoil and electricity are the two forms of energy used on-site. This energy is used to power machinery in the processing of waste and to illuminate the working area. Electricity is also used in the day to day staff activity for example lighting in common areas, water heating in canteen.