

APPENDIX A

CLASSIFICATION OF CHEMICALS AT WASTE MANAGEMENT FACILITY, CARRANSTOWN

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The active ingredients and excipients which will be used at the Indaver Waste Management Facility have been classified in the following table.

The following detailed information is given.

- 1 CAS Number The US Chemical Abstracts System gives a Unique number to each chemical compound.

2. 67/548/EEC This commission Directive relates to the classification, packaging and labelling of dangerous substances. The general classification utilises phrases indicating special risks ('R' Phrases) and safety advice ('S' phrases). Both 'R' and 'S' phrases, and other chemical prospectives have been assigned to the materials in the table.
(SI No 77 of 1994 and SI No 272 of 1995)

Where a chemical substance has been officially classified by the EU then its 'R' and 'S' phrases have been deducted from annex 1 of the 67/548/EEC directive. In other instances the 'R' and 'S' phrases have been evaluated from the best information available to NAVAN and the classification rules given in Annex VI of 67/548/EEC, and for preparations 88/379/EEC. An explanation of the 'R' and 'S' phrases is attached at the end of the table.

3. 76/464/EEC This is a Council Directive on dangerous substances discharged into the aquatic environment of the Community. The Council has adopted limit values which emission standards for List I compounds should not exceed, and is revising certain List II compounds for inclusion in List I. List II compounds which can be directly classified from the criteria given in the Annex to 76/464/EEC have been identified in Table 1

4. 91/322/EEC Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulation, 1994 which implements Directives 88/642/EEC and 91/322/EEC on protection of workers related to chemical agents at work. Occupational exposure limits (OEL) are given for 8 hours and 15 minutes reference periods where published.
(SI No 445 of 1994)

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5. Emissions Class

Volatile Organic Compounds that are released to air are classified into three groups with the following emission limits:-

Class I 20 mg/m³ at a mass flow of 0.1 kg/hr or more

Class II 100mg/m³ at a mass flow of 2kg/hr or more

Class III 150 mg/m³ at a mass flow of 3kg/hr or more

The tables on the following three pages set out details of the chemicals proposed to be used in the Carranstown Waste Management Facility.

It should be noted that this data is provisional and indicative only as the data depends on the supplier of the chemical. A full set of data will be submitted to the EPA as part of the IPC Licensing process.

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Chemical Name	CAS No.	Purpose	EC/67/548		EC/67/548	EC/91/322 SI445 of 1994		Principal Hazard	Emissions Class TA Luft
			"R" (Risk) Phrases	"S" (Safety) Phrases	List No./ Category	8hr TWA (mg/m ³)	STEL 15mins (mg/m ³)		
Ammonia (aqueous)	1336-21-6	Boiler Additive and DeNOx	34, 37	7, 26, 45	II (Ammonia)	17	24	Corrosive	None
Urea	57-13-6	Alternative for DeNOx	43	37	Not listed	Not Listed	Not Listed	Irritant	None
Sodium Hydroxide	1310-73-2	Water Treatment Chemical	35	1/2, 26, 37/39, 45	Not listed	None	2	Corrosive	None
Hydrochloric Acid	7647-01-0	Water Treatment Chemical	34, 37	1/2, 26, 45	Not listed	None	7	Corrosive Irritant	None
Sodium sulphite	7757-83-7	Boiler Additive	22, 36 38, 40	22, 26, 36	Not listed	Not Listed	Not Listed	Irritant	None
Trisodium phosphate	10101-89	Boiler Additive	34	26, 27, 36, 37, 22, 39	II (Inorganic Compound of Phosphorous)	Not Listed	Not Listed	Corrosive	None
Cement	65997-15-1	Solidification	36, 37, 38	24, 25, 26, 36, 37, 39	Not listed	4	None	Irritant	None
Iron Silicate	69012-64-2	Solidification	---	---	Not listed	6	None	Sensitising	None

Chemical Name	CAS No.	Purpose	EC/67/548		EC/67/548	EC/91/322 SI445 of 1994		Principal Hazard	Emissions Class TA Luft
			"R" (Risk) Phrases	"S" (Safety) Phrases	List No./ Category	8hr TWA (mg/m ³)	STEL 15mins (mg/m ³)		
TMT 15	17766-26-6	Wet Scrubbers	36/38	26, 37/39	Not listed	2	Not Listed	Irritant	None
Limestone	471-34-1	Wet Scrubbers	None	None	Not listed	10	None	Sensitising	None
Lime	01305-78-8	Alternative for Wet Scrubbers	None	7, 24, 25	Not listed	2	None	Irritant	None
Activated Carbon	133-86-4	Before Baghouse Filter	None	None	Not listed	3.5	7	Irritant	None
Lignite Cokes	Not determined	Wet Dioxin Removal	Not determined	Not determined	Not listed	Not determined	Not determined	Not determined	None
Hydraulic Oil	Mixture	Refill Hydraulic Oil Packs	Not determined	Not determined	II (Petroleum Hydrocarbon)	Not determined	Not determined	Not determined	None

“R” Phrases

R 1	Explosive when dry
R 2	Risk of explosion
R 3	Extreme risk of explosion
R 4	Forms very sensitive explosive metallic compounds
R 5	Heating may cause an explosion
R 6	Explosion with or without contact with air
R 7	May cause fire
R 8	Contact with combustible material may cause fire
R 9	Explosive when mixed with combustible material
R 10	Flammable
R 11	Highly flammable
R 12	Extremely flammable
R 13	Extremely flammable liquefied gas
R 14	Reacts violently with water
R 15	Contact with water liberates highly flammable gases
R 16	Explosive when mixed with oxidising substances
R 17	Spontaneously flammable in air
R 18	In use, may form flammable/explosive vapour-air mixture
R 19	May form explosive peroxides
R 20	Harmful by inhalation
R 21	Harmful in contact with skin
R 22	Harmful if swallowed
R 23	Toxic by inhalation
R 24	Toxic in contact with skin
R 25	Toxic if swallowed
R 26	Very toxic by inhalation
R 27	Very toxic in contact with skin
R 28	Very toxic if swallowed
R 29	Contact with water liberates toxic gas
R 30	Can become highly flammable in use
R 31	Contact with acid liberates toxic gas
R 32	Contact with acid liberates very toxic gas
R 33	Danger of cumulative effects

- R 34 Causes burns
- R 35 Causes severe burns
- R 36 Irritating to eyes
- R 37 Irritating to respiratory system
- R 38 Irritating to skin
- R 39 Danger of very serious irreversible effects
- R 40 Possible risk of irreversible effects
- R 41 Risk of serious damage to eyes
- R 42 May cause sensitisation by inhalation
- R 43 May cause sensitisation by skin contact
- R 44 Risk of explosion if heated under confinement
- R 45 May cause cancer
- R 46 May cause heritable genetic damage
- R 47 May cause birth defects
- R 48 Danger of serious damage to health by prolonged exposure
- R 49 May cause cancer by inhalation
- R 50 Very toxic to aquatic organisms
- R 51 Toxic to aquatic organisms
- R 52 Harmful to aquatic organisms
- R 53 May cause long-term adverse effects in the aquatic environments
- R 54 Toxic to flora
- R 55 Toxic to fauna
- R 56 Toxic to soil organisms
- R 57 Toxic to bees
- R 58 May cause long-term adverse effects in the environment
- R 59 Dangerous to the ozone layer
- R60 May impair fertility
- R61 May cause harm to the unborn child
- R62 Possible risk of impaired fertility
- R63 Possible risk of harm to the unborn child
- R64 May cause harm to breast fed babies

“S” Phrases

- S 1 Keep locked up
- S 2 Keep out of reach of children
- S 3 Keep in a cool place
- S 4 Keep away from living quarters
- S 5 Keep contents under ...
- S 6 Keep under ...
- S 7 Keep container tightly closed
- S 8 Keep container dry
- S 9 Keep container in a well-ventilated place
- S 10
- S 11
- S 12 Do not keep container sealed
- S 13 Keep away from food, drink and animal feeding stuffs
- S 14 Keep away from ...
- S 15 Keep away from heat
- S 16 Keep away from sources of ignition - no smoking
- S 17 Keep away from combustible material
- S 18 Handle and open container with care
- S 19
- S 20 When using do not eat or drink
- S 21 When using do not smoke
- S 22 Do not breathe dust
- S 23 Do not breathe gas/fumes/vapour/spray
- S 24 Avoid contact with skin
- S 25 Avoid contact with eyes
- S 26 In case of contact with eyes, rinse immediately with plenty of water
- S 27 Take off all contaminated clothing immediately
- S 28 After contact with skin, wash immediately with plenty of ...
- S 29 Do not empty into drains
- S 30 Never add water to this product
- S 31
- S 32
- S 33 Take precautionary measures against static discharges
- S 34 Avoid shock and friction

- S 35 This material and its container must be disposed of in a safe way
- S 36 Wear suitable protective clothing
- S 37 Wear suitable gloves
- S 38 In case of insufficient ventilation, wear suitable respiratory equipment
- S 39 Wear eye/face protection
- S 40 To clean the floor and all objects contaminated by this material, use ...
- S 41 In case of fire and/or explosion, do not breathe fumes
- S 42 During fumigation/spraying, wear suitable respiratory equipment
- S 43 In case of fire, use ...
- S 44 If you feel unwell, seek medical advice
- S 45 In case of accident or if you feel unwell, seek medical advice immediately
- S 46 If swallowed, seek medical advice immediately and show this container or label
- S 47 Keep at temperature not exceeding ... °C
- S 48 Keep wetted with ...
- S 49 Keep only in original container
- S 50 Do not mix with ...
- S 51 Use only in well ventilated areas
- S 52 Not recommended for interior use on large surface areas
- S 53 Avoid exposure - obtain special instructions before use
- S 54 Obtain the consent of pollution control authorities before discharging to wastewater treatment plants
- S 55 Treat using best available techniques before discharging into drains or the aquatic environment
- S 56 Do not discharge into drains or the environment, dispose of to an authorised waste collection point
- S 57 Use appropriate containment to avoid environmental contamination
- S 58 To be disposed of as hazardous waste
- S 59 Refer to manufacturer/supplier for information on recovery/recycling
- S 60 This material and/or its container must be disposed of as hazardous waste