Lotoxane Fast
C044

Date of compilation: 28/02/2023 Revised: 25/04/2025 Version: 3 (Replaced 2)

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier: Lotoxane Fast
C044
Hydrocarbons, C10-C12, iso-alkanes, <2% aromatics

CAS: Not relevant

REACH: 01-2119471991-29-XXXX

Other means of identification:

Not relevant

1.2 Relevant identified uses of the substance or mixture and uses advised against:

Relevant uses (Professional users): Industrial cleaning solvent; degreaser
Relevant uses (Industrial user): Industrial cleaning solvent; degreaser
For Professional users/Industrial user only.
Uses advised against: All uses not specified in this section or in section 7.3

Please see the annex for detailed information about the specific and safe usage of the product.

1.3 Details of the supplier of the safety data sheet:

Arrow Solutions
Rawdon Road, Moira
DE12 6DA Swadlincote - Derbyshire - United Kingdom
Phone: 01283 221044
sales@arrowchem.com
www.arrowchem.com

Represented By:
Authorised Rep Compliance Representing Reabrook Ltd
Ground Floor
Lower Baggot Street
Dublin
D02 P593
Ireland
www.authorisedrepcompliance.com

1.4 Emergency telephone number: For 24/7 multilingual advice for spill, leak, fire, exposure, or accident Call CHEMTREC at +44 20 3885 0382 / +44 20 3807 3798 and provide CCN 1018674; NPIS: 0344 892 0111 (healthcare professionals only) or NHS 111.

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture:

GB CLP Regulation (UK S.I. 2019/720 and UK S.I. 2020/1567):

Classification of this product has been carried out in accordance with GB CLP Regulation (UK S.I. 2019/720 and UK S.I. 2020/1567).
Aquatic Chronic 2: Hazardous to the aquatic environment, long-term hazard, Category 2, H411
Asp. Tox. 1: Aspiration hazard, Category 1, H304
Flam. Liq. 3: Flammable liquids, Category 3, H226

2.2 Label elements:

GB CLP Regulation (UK S.I. 2019/720 and UK S.I. 2020/1567):

Danger

Hazard statements:

Aquatic Chronic 2: H411 - Toxic to aquatic life with long lasting effects.
Asp. Tox. 1: H304 - May be fatal if swallowed and enters airways.
Flam. Liq. 3: H226 - Flammable liquid and vapour.

Precautionary statements:

- CONTINUED ON NEXT PAGE -

SECTION 2: HAZARDS IDENTIFICATION (continued)

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P273: Avoid release to the environment.
P280: Wear protective gloves.
P301+P330+P331: IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P310: Immediately call a POISON CENTER/doctor.
P501: Dispose of the contents/containers in accordance with the current legislation on waste treatment

Supplementary information:

EUH066: Repeated exposure may cause skin dryness or cracking.

2.3 Other hazards:

Product does not meet PBT/vPvB criteria

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance:

Chemical description: Solvent/s

In accordance with Annex II of The REACH etc. (Amendment etc.) (EU Exit) Regulations 2020, the product contains:

Identification	Chemical name/Classification	Concentration
CAS: Not available EC: 923-037-2 REACH: 01-2119471991-29-XXXX	**Hydrocarbons, C10-C12, iso-alkanes, <2% aromatics** Aquatic Chronic 2: H411; Asp. Tox. 1: H304; Flam. Liq. 3: H226; EUH066 - Danger	**100 %**

To obtain more information on the hazards of the substances consult sections 11, 12 and 16.

3.2 Mixture:

Not available

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures:

The symptoms resulting from intoxication can appear after exposure, therefore, in case of doubt, seek medical attention for direct exposure to the chemical product or persistent discomfort, showing the SDS of this product.

By inhalation:

Remove the affected person from the area of exposure, provide them with fresh air, and keep them at rest. In severe cases such as cardiorespiratory arrest, administer artificial respiration techniques if properly trained (CPR, oxygen provision, etc.) and seek immediate medical assistance.

By skin contact:

Remove contaminated clothing and footwear, rinse skin or shower the person affected if appropriate with plenty of cold water and neutral soap. In serious cases see a doctor. If the product causes burns or freezing, clothing should not be removed as this could worsen the injury caused if it is stuck to the skin. If blisters form on the skin, these should never be burst as this will increase the risk of infection.

By eye contact:

Rinse eyes thoroughly with lukewarm water for at least 15 minutes. Do not allow the person affected to rub or close their eyes. If the injured person uses contact lenses, these should be removed unless they are stuck to the eyes, in which case this could cause further damage. In all cases, after cleaning, a doctor should be consulted as quickly as possible with the SDS of the product.

By ingestion/aspiration:

Request medical assistance immediately, showing the SDS of this product. Do not induce vomiting, but if it does happen keep the head down to avoid aspiration. In the case of loss of consciousness do not administer anything orally unless supervised by a doctor. Rinse out the mouth and throat, as they may have been affected during ingestion. Keep the person affected at rest.

4.2 Most important symptoms and effects, both acute and delayed:

Acute and delayed effects are indicated in sections 2 and 11.

4.3 Indication of any immediate medical attention and special treatment needed:

Not relevant

- CONTINUED ON NEXT PAGE -

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media:

Suitable extinguishing media:

Foam extinguisher (AB), Dry Chemical Powder (ABC) Fire Extinguisher, Carbon dioxide extinguisher (BC)

Unsuitable extinguishing media:

Water jet

5.2 Special hazards arising from the substance or mixture:

As a result of combustion or thermal decomposition reactive sub-products are created that can become highly toxic and, consequently, can present a serious health risk.

5.3 Advice for firefighters:

Depending on the magnitude of the fire it may be necessary to use full protective clothing and Self Contained Breathing Apparatus. Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,...)

Additional provisions:

Act in accordance with the Internal Emergency Plan and the Information Sheets on actions to take after an accident or other emergencies. Eliminate all sources of ignition. In case of fire, cool the storage containers and tanks for products susceptible to combustion, explosion or BLEVE as a result of high temperatures. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel:

Isolate leaks provided that there is no additional risk for the people performing this task. Evacuate the area and keep out those without protection. Personal protection equipment must be used against potential contact with the spilt product (See section 8). Above all prevent the formation of any vapour-air flammable mixtures, through either ventilation or the use of an inert medium. Remove any source of ignition. Eliminate electrostatic charges by interconnecting all the conductive surfaces on which static electricity could form, and also ensuring that all surfaces are connected to the ground.

For emergency responders:

Wear protective equipment. Keep unprotected persons away. See section 8.

6.2 Environmental precautions:

Avoid at all cost any type of spillage into an aqueous medium. Contain the product absorbed appropriately in hermetically sealed containers. Notify the relevant authority in case of exposure to the general public or the environment.

6.3 Methods and material for containment and cleaning up:

It is recommended:

Prevent the entrance of product in drains, sewers or watercourses. Absorb the spill using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. Collect the product in appropriate containers and manage it according to current legislation.
Spillages in water or sea:
Small spillages:
Contain spillage using barriers or similar equipment. Use suitable absorbents for collection and treat the waste in accordance with current regulations.
Large spillages:
If possible, contain spillage in open water using barriers or similar equipment. If this is not possible, try to control its spread and collect the product with suitable mechanical means. Always consult experts before using dispersants and make sure you have the necessary approvals if they are to be used. Treat the waste according to current regulations.

6.4 Reference to other sections:

See sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling:

A.- General precautions for safe use

Comply with the current legislation concerning the prevention of industrial risks. Keep containers hermetically sealed. Control spills and residues, destroying them with safe methods (section 6). Avoid leakages from the container. Maintain order and cleanliness where dangerous products are used.

- CONTINUED ON NEXT PAGE -

SECTION 7: HANDLING AND STORAGE (continued)

B.- Technical recommendations for the prevention of fires and explosions

Transfer in well ventilated areas, preferably through localized extraction. Fully control sources of ignition (mobile phones, sparks,…) and ventilate during cleaning operations. Avoid the existence of dangerous atmospheres inside containers, applying inertization systems where possible. Transfer at a slow speed to avoid the creation of electrostatic charges. Against the possibility of electrostatic charges: ensure a perfect equipotential connection, always use groundings, do not wear work clothes made of acrylic fibres, preferably wearing cotton clothing and conductive footwear. Comply with the essential security requirements for equipment and systems defined in The Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016 and with the minimum requirements for protecting the security and health of workers under the selection criteria of The Dangerous Substances and Explosive Atmospheres Regulations 2002, 2002 No. 2776. Consult section 10 for conditions and materials that should be avoided.

C.- Technical recommendations on general occupational hygiene

Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

D.- Technical recommendations to prevent environmental risks

Due to the danger of this product for the environment it is recommended to use it within an area containing contamination control barriers in case of spillage, as well as having absorbent material in close proximity.

7.2 Conditions for safe storage, including any incompatibilities:

A.- Specific storage requirements

Minimum Temp.: 4 ºC

Maximum Temp.: 40 ºC

B.- General conditions for storage

Avoid sources of heat, radiation, static electricity and contact with food. For additional information see subsection 10.5

7.3 Specific end use(s):

Please see the annex for detailed information about handling, storage and specific end uses.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters:

Substances whose occupational exposure limits have to be assessed in the workplace:

There are no applicable occupational exposure limits for the substances contained in the product

Occupational exposure limits – Substance Manufacturers Recommendation
Product/Ingredient Name: Hydrocarbons, C10-C12, isoalkanes, <2% aromatics
Exposure limit values: RCP - TWA: 196 ppm, (Total Hydrocarbons) Form: Vapour. RCP - TWA: 1200 mg/m³, (Total Hydrocarbons) Form: Vapour
NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

DNEL (Workers):

Not relevant

DNEL (General population):

Not relevant

PNEC:

Not relevant

8.2 Exposure controls:

A.- Individual protection measures, such as personal protective equipment

As a preventative measure it is recommended to use basic Personal Protective Equipment, with the corresponding <<UKCA marking>> or <<CE marking>>. For more information on Personal Protective Equipment (storage, use, cleaning, maintenance, class of protection,…) consult the information leaflet provided by the manufacturer. For more information see subsection 7.1. All information contained herein is a recommendation which needs some specification from the labour risk prevention services as it is not known whether the company has additional measures at its disposal.

B.- Respiratory protection

Pictogram	PPE	Remarks
 Mandatory respiratory tract protection	Filter mask for gases, vapours and particles (Filter type: A2P2)	Replace when an increase in resistence to breathing is observed and/or a smell or taste of the contaminant is detected.

- CONTINUED ON NEXT PAGE -

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

C.- Specific protection for the hands

Pictogram	PPE	Remarks
 Mandatory hand protection	Protective gloves against minor risks (Material: Nitrile, Breakthrough time: > 480 min, Thickness: 0.1 mm, Conditions of use: Splashing)	Replace gloves in case of any sign of damage. For prolonged periods of exposure to the product for professional users/industrials, we recommend using CE III gloves in line with standards EN ISO 21420:2020 and EN ISO 374-1:2016+A1:2018

D.- Eye and face protection

Pictogram	PPE	Remarks
 Mandatory face protection	Panoramic glasses against splash/projections.	Clean daily and disinfect periodically according to the manufacturer´s instructions. Use if there is a risk of splashing.

E.- Body protection

Pictogram	PPE	Remarks
	Work clothing	Replace before any evidence of deterioration. For periods of prolonged exposure to the product for professional/industrial users CE III is recommended, in accordance with the regulations in EN ISO 6529:2013, EN ISO 6530:2005, EN ISO 13688:2013, EN 464:1994.
 Mandatory complete body protection	Antistatic and fireproof protective clothing	Limited protection against flames.
 Mandatory foot protection	Safety footwear with antistatic and heat resistant properties	Replace boots at any sign of deterioration.

F.- Additional emergency measures

It is advised to implement additional emergency equipments in workplaces that are particularly exposed to the product or in situations where risk assessments highlight the necessity of such equipments.

Emergency measure	Standards	Emergency measure	Standards
 Emergency shower	ANSI Z358-1 ISO 3864-1:2011, ISO 3864-4:2011	 Eyewash stations	DIN 12 899 ISO 3864-1:2011, ISO 3864-4:2011

Environmental exposure controls:

To comply with environmental protection regulations, it is recommended to prevent any spillage of the product and its container. For more detailed information, please refer to subsection 7.1.D.

The Volatile Organic Compounds in Paints, Varnishes and Vehicle Refinishing Products Regulations 2012:

V.O.C. (Supply): 100 % weight

V.O.C. density at 20 ºC: 747 kg/m³ (747 g/L)

Threshold limit Maximum VOC content limit values for vehicle refinishing products - Preparatory and cleaning - Preparatory: 850 g/L

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

Appearance:

Physical state at 20 ºC: Liquid

Appearance: Transparent

*Not relevant due to the nature of the product, not providing information property of its hazards.

- CONTINUED ON NEXT PAGE -

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (continued)

Colour:	Colourless
Odour:	Hydrocarbon
Odour threshold:	Not relevant *
Volatility:	
Boiling point at atmospheric pressure:	160 - 174 ºC (ASTM D86)
Vapour pressure at 20 ºC:	288 Pa
Vapour pressure at 50 ºC:	1621.58 Pa (1.62 kPa)
Evaporation rate at 20 ºC:	Not relevant *
Product description:	
Density at 20 ºC:	Not relevant *
Relative density at 15 ºC:	0.75
Dynamic viscosity at 20 ºC:	1.2 mPa·s
Kinematic viscosity at 20 ºC:	Not relevant *
Kinematic viscosity at 40 ºC:	0.9 mm^2/s
Concentration:	Not relevant *
pH:	Not relevant *
Vapour density at 20 ºC:	Not relevant *
Partition coefficient n-octanol/water 20 ºC:	Not relevant *
Solubility in water at 20 ºC:	Not relevant *
Solubility properties:	Insoluble in water, soluble in organic solvents
Decomposition temperature:	Not relevant *
Melting point/freezing point:	Not relevant *
Flammability:	
Flash Point:	44 ºC
Flammability (solid, gas):	Not relevant *
Autoignition temperature:	>236 ºC (ASTM E 659-78)
Lower flammability limit:	0.7 % Volume
Upper flammability limit:	6 % Volume
Particle characteristics:	
Median equivalent diameter:	Not relevant *

9.2 Other information:

Information with regard to physical hazard classes:	
Explosive properties:	Not relevant *
Oxidising properties:	Not relevant *
Corrosive to metals:	Not relevant *
Heat of combustion:	Not relevant *
Aerosols-total percentage (by mass) of flammable components:	Not relevant *
Other safety characteristics:	
Surface tension at 20 ºC:	Not relevant *
Refraction index:	Not relevant *

*Not relevant due to the nature of the product, not providing information property of its hazards.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:

- CONTINUED ON NEXT PAGE -

SECTION 10: STABILITY AND REACTIVITY (continued)

No hazardous reactions are expected because the product is stable under recommended storage conditions. See section 7 from Safety Data Sheet.

10.2 Chemical stability:

Chemically stable under the indicated conditions of storage, handling and use.

10.3 Possibility of hazardous reactions:

Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

10.4 Conditions to avoid:

Applicable for handling and storage at room temperature:

Shock and friction	Contact with air	Increase in temperature	Sunlight	Humidity
Not applicable	Not applicable	Risk of combustion	Avoid direct impact	Not applicable

10.5 Incompatible materials:

Acids	Water	Oxidising materials	Combustible materials	Others
Avoid strong acids	Not applicable	Avoid direct impact	Not applicable	Avoid alkalis or strong bases

10.6 Hazardous decomposition products:

See subsection 10.3, 10.4 and 10.5 to find out the specific decomposition products. Depending on the decomposition conditions, complex mixtures of chemical substances can be released: carbon dioxide (CO_2), carbon monoxide and other organic compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

Dangerous health implications:

In case of exposure that is repetitive, prolonged or at concentrations higher than the recommended occupational exposure limits, adverse effects on health may result, depending on the means of exposure:

A- Ingestion (acute effect):

- Acute toxicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for consumption. For more information see section 3
- Corrosivity/Irritability: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

B- Inhalation (acute effect):

- Acute toxicity : Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for inhalation. For more information see section 3.
- Corrosivity/Irritability: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

C- Contact with the skin and the eyes (acute effect):

- Contact with the skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for skin contact. For more information see section 3.
- Contact with the eyes: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

D- CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):

- Carcinogenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for the effects mentioned. For more information see section 3.
- Mutagenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.
- Reproductive toxicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

E- Sensitizing effects:

- Respiratory: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous with sensitising effects. For more information see section 3.
- Skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

F- Specific target organ toxicity (STOT) - single exposure:

- CONTINUED ON NEXT PAGE -

SECTION 11: TOXICOLOGICAL INFORMATION (continued)

Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

G- Specific target organ toxicity (STOT)-repeated exposure:

- Specific target organ toxicity (STOT)-repeated exposure: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.
- Skin: Repeated exposure may cause skin dryness or cracking

H- Aspiration hazard:

May be fatal if swallowed and enters airways.

Other information:

Not relevant

Product-specific toxicological information:

Acute toxicity		Genus
LD50 oral	>5000 mg/kg	Rat
LC50 inhalation vapour	4951 mg/L (4 h)	Rat

Specific toxicology information on the substances:

Identification	Acute toxicity		Genus
Hydrocarbons, C10-C12, iso-alkanes, <2% aromatics CAS: Not relevant EC: 923-037-2	LD50 oral	>5000 mg/kg	Rat
	LD50 dermal	>2000 mg/kg	
	LC50 inhalation vapour	>20 mg/L	

SECTION 12: ECOLOGICAL INFORMATION

Toxic to aquatic life with long lasting effects.

12.1 Toxicity:

Acute toxicity:

Identification	Concentration		Species	Genus
Hydrocarbons, C10-C12, iso-alkanes, <2% aromatics	LC50	>1 - 10 mg/L (96 h)		Fish
CAS: Not relevant	EC50	>1 - 10 mg/L (48 h)		Crustacean
	EC50	>1 - 10 mg/L (72 h)		Algae

12.2 Persistence and degradability:

Substance-specific information:

Identification	Degradability		Biodegradability	
Hydrocarbons, C10-C12, iso-alkanes, <2% aromatics	BOD5	Not relevant	Concentration	Not relevant
CAS: Not relevant	COD	Not relevant	Period	28 days
EC: 923-037-2	BOD5/COD	Not relevant	% Biodegradable	31 %

12.3 Bioaccumulative potential:

Not relevant

12.4 Mobility in soil:

Not relevant

Water miscible

12.5 Results of PBT and vPvB assessment:

Product does not meet PBT/vPvB criteria

12.6 Other adverse effects:

Not described

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods:

- CONTINUED ON NEXT PAGE -

SECTION 13: DISPOSAL CONSIDERATIONS (continued)

Code	Description	Waste class
	It is not possible to assign a specific code, as it depends on the intended use by the user	Hazardous

Type of waste:

HP3 Flammable, HP5 Specific Target Organ Toxicity (STOT)/Aspiration Toxicity, HP14 Ecotoxic

Waste management (disposal and evaluation):

Consult the authorized waste service manager on the assessment and disposal operations in accordance The Waste (England & Wales) Regulations 2011, 2011 No. 988. As under 15 01 of the code and in case the container has been in direct contact with the product, it will be processed the same way as the actual product. Otherwise, it will be processed as non-hazardous residue. Waste should not be disposed of to drains. See paragraph 6.2.

Regulations related to waste management:

In accordance with Annex II of UK REACH the provisions related to waste management are stated:

UK legislation: The Waste (England & Wales) Regulations 2011.

SECTION 14: TRANSPORT INFORMATION

Transport of dangerous goods by land:

With regard to ADR 2023 and RID 2023:

14.1	**UN number:**	UN1993
14.2	**UN proper shipping name:**	FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C10-C12, iso-alkanes, <2% aromatics)
14.3	**Transport hazard class(es):**	3
	Labels:	3
14.4	**Packing group:**	III
14.5	**Environmental hazards:**	Yes
14.6	**Special precautions for user**	
	Tunnel restriction code:	D/E
	Physico-Chemical properties:	see section 9
	Limited quantities:	5 L
14.7	**Transport in bulk according to Annex II of Marpol and the IBC Code:**	Not relevant

Transport of dangerous goods by sea:

With regard to IMDG 41-22:

14.1	**UN number:**	UN1993
14.2	**UN proper shipping name:**	FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C10-C12, iso-alkanes, <2% aromatics)
14.3	**Transport hazard class(es):**	3
	Labels:	3
14.4	**Packing group:**	III
14.5	**Marine pollutant:**	Yes
14.6	**Special precautions for user**	
	Special regulations:	274, 223, 955
	EmS Codes:	F-E, S-E
	Physico-Chemical properties:	see section 9
	Limited quantities:	5 L
	Segregation group:	Not relevant
14.7	**Transport in bulk according to Annex II of Marpol and the IBC Code:**	Not relevant

Transport of dangerous goods by air:

With regard to IATA/ICAO 2025:

- CONTINUED ON NEXT PAGE -

SECTION 14: TRANSPORT INFORMATION (continued)

14.1	**UN number:**	UN1993
14.2	**UN proper shipping name:**	FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C10-C12, iso-alkanes, <2% aromatics)
14.3	**Transport hazard class(es):**	3
	Labels:	3
14.4	**Packing group:**	III
14.5	**Environmental hazards:**	Yes
14.6	**Special precautions for user**	
	Physico-Chemical properties:	see section 9
14.7	**Transport in bulk according to Annex II of Marpol and the IBC Code:**	Not relevant

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

- Substances listed in UK candidate list of substances of very high concern (SVHCs): Not relevant
- Substances listed in UK REACH Authorisation List (Annex 14): Not relevant

Restrictions to commercialisation and the use of certain dangerous substances and mixtures (Annex XVII UK REACH, etc ….):

Shall not be used in:
—ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,
—tricks and jokes,
—games for one or more participants, or any article intended to be used as such, even with ornamental aspects.

Specific provisions in terms of protecting people or the environment:

It is recommended to use the information included in this safety data sheet as a basis for conducting workplace-specific risk assessments in order to establish the necessary risk prevention measures for the handling, use, storage and disposal of this product.

Other legislation:

The REACH etc. (Amendment etc.) (EU Exit) Regulations 2020.
The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations 2020.
Control of Substances Hazardous to Health Regulations 2002 (as amended)
EH40/2005 Workplace exposure limits.
COSHH-SR24 Storing chemical products (small scale).
COSHH-SR2 Diluting chemical concentrates.
COSHH-SR4 Manual cleaning and disinfecting surfaces.
The Product Safety and Metrology etc. (Amendment etc.) (EU Exit) Regulations 2019: SCHEDULE 34 - Amendment of Regulation (EC) No 1223/2009 and related amendments.
The Detergents (Amendment) (EU Exit) Regulations 2020.

SECTION 16: OTHER INFORMATION

Legislation related to safety data sheets:

This safety data sheet has been designed in accordance with ANNEX II-The REACH etc. (Amendment etc.) (EU Exit) Regulations 2020.

Texts of the legislative phrases mentioned in section 2:

H226: Flammable liquid and vapour.
H304: May be fatal if swallowed and enters airways.
H411: Toxic to aquatic life with long lasting effects.

Texts of the legislative phrases mentioned in section 3:

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3

GB CLP Regulation (UK S.I. 2019/720 and UK S.I. 2020/1567):

Aquatic Chronic 2: H411 - Toxic to aquatic life with long lasting effects.
Asp. Tox. 1: H304 - May be fatal if swallowed and enters airways.
Flam. Liq. 3: H226 - Flammable liquid and vapour.

Advice related to training:

Training is recommended in order to prevent industrial risks for staff using this product and to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

- CONTINUED ON NEXT PAGE -

SECTION 16: OTHER INFORMATION (continued)

Principal bibliographical sources:

http://echa.europa.eu
http://eur-lex.europa.eu

Abbreviations and acronyms:

ADR: European agreement concerning the international carriage of dangerous goods by road
IMDG: International maritime dangerous goods code
IATA: International Air Transport Association
ICAO: International Civil Aviation Organisation
COD: Chemical Oxygen Demand
BOD5: 5day biochemical oxygen demand
BCF: Bioconcentration factor
LD50: Lethal Dose 50
LC50: Lethal Concentration 50
EC50: Effective concentration 50
LogPOW: Octanolwater partition coefficient
Koc: Partition coefficient of organic carbon
UFI: unique formula identifier
IARC: International Agency for Research on Cancer

- CONTINUED ON NEXT PAGE -

ANNEX: EXPOSURE SCENARIO

Title: Lotoxane Fast Exposure Scenario
Substance Name: Hydrocarbons, C10-C12, iso-alkanes, <2% aromatics
Date: 27/08/2024
Version: 3

Section 1 Exposure Scenario

Title: Distribution of substance

Use Descriptor

Sector(s) of end-use	SU3, SU8, SU9
Process categories	PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9, PROC15
Environmental Release Categories	ERC1, ERC2, ERC3, ERC4, ERC5, ERC6A, ERC6B, ERC6C, ERC6D, ERC7
Specific Environmental Release Category	ESVOC 1.1b, v1

Processes, task, activities covered

Loading (including marine vessel / barge, rail / road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading, distibution and associated laboratory activities.

Section 2 Operational conditions and risk management measures

Section 2.1 Control of worker exposure

Product Characteristics

Liquid

Duration, frequency and amount

Covers daily exposures up to 8 hours (unless stated differently) [G2]
Covers percentage substance in the product up to 100% [G13]

Other given operational conditions affecting workers exposure

Assumes a good basic standard of occupational hygiene is implemented. [G1]
No exposure assessment presented for human health. [G39]

Contributing Scenarios /
Specific Risk Management Measures and Operating Conditions
(only required controls to demonstrate safe use listed)

General measures (Aspiration Hazard)
The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the

- CONTINUED ON NEXT PAGE -

ANNEX: EXPOSURE SCENARIO (continued)

physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard.
Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.
General measures (Flammable Liquid)
Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures in the workplace. It is recommended to follow the Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk assessments for the identified uses, the risk can be regarded as controlled to an acceptable level.
Use in contained systems. Avoid ignition sources-No Smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid electrostatic discharge. Ground / bond container and recieving equipment. Use non-sparking tools. Comply with relevant national regulations. Review SDS for additional advice.

Section 2.2 Control of environmental exposure

Product characteristics

Predominantly hydrophobic.
Substance is complex UVCB

Duration, frequency and amount

Annual site tonnage (tonnes / year): 0.28 tons yr
Continuous release.
Emission Days (days / year): 20 days / yr
Fraction of EU tonnage used in region: 0.1
Fraction of Regional tonnage used Locally: 0.002
Maximum daily site tonnage (kg/d): 14 kg / day
Regional use tonnage (tonnes / year): 140 tons/yr

Environmental factors not influenced by risk management

Local freshwater dilution factor: [EF1] 10
Local marine water dilution factor: [EF2] 100

Other given operational conditions affecting environmental exposure

Release fraction to air from process (initial release prior to RMM): 0.001
Release fraction to soil from process (initial release prior to RMM): 0.00001
Release fraction to wastewater from process (initial release prior to RMM): 0.0000001

Technical conditions and measures at process level (source) to prevent release

Common practices vary across sites thus conservative process release estimates used.

Technical onsite conditions and measures to reduce or limit disharges, air emissions and release to soil

If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal effieiciency of =: 0%
No secondary wastewater treatement required.
Risk from environmental exposure driven by freshwater.
Treat air emissions to provide a typical removal (or abatement?) efficiency of: 90%
Treat onsite wastewater (prior to recieving water discharge) to provide the required removal (or abatement) effeciency of =: 0%

Organisation measures to prevent / limit release from site

- CONTINUED ON NEXT PAGE -

ANNEX: EXPOSURE SCENARIO (continued)

Do not apply industrial sludge to natural soils.
Prevent discharge of undissolved substance to or recover from wastewater.
Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to municipal sewage treatment plant

Assumed domestic waste sewage treatment plant effluent flow is: [STP5] 2000m^3/day
Estimated substance removal from wastewater via domestic sewage treatment is: 96.2%
Not applicable as there is no release to wastewater.
The maximum allowable site tonnage (MSafe) based on domestic sewage plant effluent is: 1300 kg / day
Total efficiency of removal from wastewater after onsiteand offsite (domestic treatment plant) RMMs is: 96.2%

Conditions and measures related to external treatment of waste for disposal

External treatment and disposal of waste should comply with local and / or national regulations [ETW3]

Conditions and measures related to external recovery of waste

External recovery and recycling of waste should comply with applicable local and / or national regulations [ERW1]

Section 3 Exposure Estimation

3.1. Health

Not applicable

3.2. Environment

The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model. [EE2]

Section 4 Guidance to check compliance with the Exposure Scenario

4.1. Health

Available hazard data do not support the need for a DNEL to be established for other health effects. [G36]
Risk Management Measures are based on qualitative risk characterisation. [G37]

4.2. Environment

Further details on scaling and control technologies are provided in factsheet.
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Maximum Risk Characteristic Ratio for Air Emissions [RCRair] 0.0000094
Maximum Risk Charactestic Ratio for Wastewater Emissions [RCRwater] 0.0044
Required removal efficiency for wastewater can be achieved using onsite / offsite technologies, either alone or in combination.

Section 1 Exposure Scenario

- CONTINUED ON NEXT PAGE -

ANNEX: EXPOSURE SCENARIO (continued)

Title: Formulation and (re)packing of substances and mixtures

Use Descriptor

Sector(s) of end-use	SU10, SU3
Process categories	PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC14, PROC15
Environmental Release Categories	ERC2
Specific Environmental Release Category	ESVOC 2.2, v1

Processes, task, activities covered

Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tabletting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities.

Section 2 Operational conditions and risk management measures

Section 2.1 Control of worker exposure

Product Characteristics

Liquid

Duration, frequency and amount

Covers daily exposures up to 8 hours (unless stated differently) [G2]
Covers percentage substance in the product up to 100% [G13]

Other given operational conditions affecting workers exposure

Assumes a good basic standard of occupational hygiene is implemented [G1]
No exposure assessment presented for human health. [G39]

Contributing Scenarios /
Specific Risk Management Measures and Operating Conditions
(only required controls to demonstrate safe use listed)

General measures (Aspiration Hazard)
The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard.
Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.
General measures (Flammable Liquid)
Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures in the workplace. It is recommended to follow the Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk assessments for the identified uses, the risk can be regarded as controlled to an acceptable level.

- CONTINUED ON NEXT PAGE -

ANNEX: EXPOSURE SCENARIO (continued)

Use in contained systems. Avoid ignition sources-No Smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved fro flammable substances. Restrict line velocity during pumping to avoid electrostatic discharge. Ground / bond container and recieving equipment. Use non-sparking tools. Comply with relevant national regulations. Review SDS for additional advice.

Section 2.2 Control of environmental exposure

Product characteristics

Predominantly hydrophobic.
Substance is complex UVCB

Duration, frequency and amount

Annual site tonnage (tonnes / year): 17 tons yr
Continuous release.
Emission Days (days / year): 10 days / yr
Fraction of EU tonnage used in region: 0.1
Fraction of Regional tonnage used Locally: 1
Maximum daily site tonnage (kg/d): 1700 kg / day
Regional use tonnage (tonnes / year): 17 tons/yr

Environmental factors not influenced by risk management

Local freshwater dilution factor:[EF1] 10
Local marine water dilution factor: [EF2] 100

Other given operational conditions affecting environmental exposure

Release fraction to air from process (initial release prior to RMM): 0.01
Release fraction to soil from process (initial release prior to RMM): 0.0001
Release fraction to wastewater from process (initial release prior to RMM): 0.000005

Technical conditions and measures at process level (source) to prevent release

Common practices vary across sites thus conservative process release estimates used.

Technical onsite conditions and measures to reduce or limit disharges, air emissions and release to soil

If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal effieiciency of =: 0%
No secondary wastewater treatment required.
Risk from environmental exposure driven by freshwater.
Treat air emissions to provide a typical removal (or abatement?) efficiency of: 0%
Treat onsite wastewater (prior to recieving water discharge) to provide the required removal (or abatement) effeciency of =: 0%

Organisation measures to prevent / limit release from site

Do not apply industrial sludge to natural soils.
Prevent discharge of undissolved substance to or recover from wastewater.
Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to municipal sewage treatment plant

Assumed domestic waste sewage treatment plant effluent flow is: [STP5] 2000m^3/day
Estimated substance removal from wastewater via domestic sewage treatment is: 96.2%

- CONTINUED ON NEXT PAGE -

ANNEX: EXPOSURE SCENARIO (continued)

Not applicable as there is no release to wastewater.
The maximum allowable site tonnage (MSafe) based on domestic sewage plant effluent is: 110000 kg / day
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs is: 96.2%

Conditions and measures related to external treatment of waste for disposal

External treatment and disposal of waste should comply with local and / or national regulations [ETW3]

Conditions and measures related to external recovery of waste

External recovery and recycling of waste should comply with applicable local and / or national regulations [ERW1]

Section 3 Exposure Estimation

3.1. Health

Not applicable

3.2. Environment

The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model. [EE2]

Section 4 Guidance to check compliance with the Exposure Scenario

4.1. Health

Available hazard data do not support the need for a DNEL to be established for other health effects. [G36]
Risk Management Measures are based on qualitative risk characterisation. [G37]

4.2. Environment

Further details on scaling and control technologies are provided in factsheet.
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Maximum Risk Characteristic Ratio for Air Emissions [RCRair] 0.000017
Maximum Risk Charactestic Ratio for Wastewater Emissions [RCRwater] 0.0052
Required removal efficiency for wastewater can be achieved using onsite / offsite technologies, either alone or in combination.

Section 1 Exposure Scenario

Title: Use in Cleaning Agents - Industrial

Use Descriptor

Sector(s) of end-use	SU3
Process categories	PROC1, PROC2, PROC3, PROC4, PROC7, PROC8a, PROC8b, PROC10, PROC13
Environmental Release Categories	ERC4

- CONTINUED ON NEXT PAGE -

ANNEX: EXPOSURE SCENARIO (continued)

Specific Environmental Release Category	ESVOC 4.4a, v1

Processes, task, activities covered

Covers the use as a component of cleaning products including transfer from storage, pouring / unloading from drums or containers, exposures during mixing / diluting in the preparatory phase and cleaning activities (including spraying, brushing, wiping, automated and by hand), related equipment cleaning and maintenance.

Section 2 Operational conditions and risk management measures

Section 2.1 Control of worker exposure

Product Characteristics

Liquid

Duration, frequency and amount

Covers daily exposures up to 8 hours (unless stated differently) [G2]
Covers percentage substance in the product up to 100% [G13]

Other given operational conditions affecting workers exposure

Assumes a good basic standard of occupational hygiene is implemented. [G1]
No exposure assessment presented for human health. [G39]

Contributing Scenarios /
Specific Risk Management Measures and Operating Conditions
(only required controls to demonstrate safe use listed)

General measures (Aspiration Hazard)
The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard.
Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.
General measures (Flammable Liquid)
Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures in the workplace. It is recommended to follow the Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk assessments for the identified uses, the risk can be regarded as controlled to an acceptable level.
Use in contained systems. Avoid ignition sources-No Smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid electrostatic discharge. Ground / bond container and recieving equipment. Use non-sparking tools. Comply with relevant national regulations. Review SDS for additional advice.

Section 2.2 Control of environmental exposure

Product characteristics

Predominantly hydrophobic.

- CONTINUED ON NEXT PAGE -

ANNEX: EXPOSURE SCENARIO (continued)

Substance is complex UVCB

Duration, frequency and amount

Annual site tonnage (tonnes / year): 7.5 tons yr
Continuous release.
Emission Days (days / year): 20 days / yr
Fraction of EU tonnage used in region: 0.1
Fraction of Regional tonnage used Locally: 1
Maximum daily site tonnage (kg/d): 380 kg / day
Regional use tonnage (tonnes / year): 7.5 tons/yr

Environmental factors not influenced by risk management

Local freshwater dilution factor: [EF1] 10
Local marine water dilution factor: [EF2] 100

Other given operational conditions affecting environmental exposure

Release fraction to air from process (initial release prior to RMM): 1
Release fraction to soil from process (initial release prior to RMM): 0
Release fraction to wastewater from process (initial release prior to RMM): 0.0000001

Technical conditions and measures at process level (source) to prevent release

Common practices vary across sites thus conservative process release estimates used.

Technical onsite conditions and measures to reduce or limit discharges, air emissions and release to soil

If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal effieiciency of =: 0%
No secondary wastewater treatment required.
Risk from environmental exposure driven by freshwater.
Treat air emissions to provide a typical removal (or abatement?) efficiency of : 70%
Treat onsite wastewater (prior to recieving water discharge) to provide the required removal (or abatement) effeciency of = : 0%

Organisation measures to prevent / limit release from site

Do not apply industrial sludge to natural soils.
Prevent discharge of undissolved substance to or recover from wastewater.
Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to municipal sewage treatment plant

Assumed domestic waste sewage treatment plant effluent flow is: [STP5] 2000m^3/day
Estimated substance removal from wastewater via domestic sewage treatment is: 96.2%
Not applicable as there is no release to wastewater.
The maximum allowable site tonnage (MSafe) based on domestic sewage plant effluent is: 34000 kg / day
Total efficiency of removal from wastewater after onsiteand offsite (domestic treatment plant) RMMs is: 96.2%

Conditions and measures related to external treatment of waste for disposal

External treatment and disposal of waste should comply with local and / or national regulations [ETW3]

Conditions and measures related to external recovery of waste

- CONTINUED ON NEXT PAGE -

ANNEX: EXPOSURE SCENARIO (continued)

External recovery and recycling of waste should comply with applicable local and / or national regulations [ERW1]

Section 3 Exposure Estimation

3.1. Health

Not applicable

3.2. Environment

The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model. [EE2]

Section 4 Guidance to check compliance with the Exposure Scenario

4.1. Health

Available hazard data do not support the need for a DNEL to be established for other health effects. [G36]
Risk Management Measures are based on qualitative risk characterisation. [G37]

4.2. Environment

Further details on scaling and control technologies are provided in factsheet.
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Maximum Risk Characteristic Ratio for Air Emissions [RCRair] 0.00011
Maximum Risk Charactestic Ratio for Wastewater Emissions [RCRwater] 0.0045
Required removal efficiency for wastewater can be achieved using onsite / offsite technologies, either alone or in combination.

Section 1 Exposure Scenario

Title: Use in Cleaning Agents - Professional

Use Descriptor

Sector(s) of end-use	SU22
Process categories	PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC10, PROC11, PROC13, PROC19
Environmental Release Categories	ERC8A, ERC8D
Specific Environmental Release Category	ESVOC 8.4b, v1

Processes, task, activities covered

Covers the use as a component of cleaing products including pouring / unloading from drums or containers; and exposures during mixing / diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping, automated and by hand).

- CONTINUED ON NEXT PAGE -

ANNEX: EXPOSURE SCENARIO (continued)

Section 2 Operational conditions and risk management measures

Section 2.1 Control of worker exposure

Product Characteristics

Liquid

Duration, frequency and amount

Covers daily exposures up to 8 hours (unless stated differently) [G2]
Covers percentage substance in the product up to 100% [G13]

Other given operational conditions affecting workers exposure

Assumes a good basic standard of occupational hygiene is implemented. [G1]
No exposure assessment presented for human health. [G39]

Contributing Scenarios /
Specific Risk Management Measures and Operating Conditions
(only required controls to demonstrate safe use listed)

General measures (Aspiration Hazard)
The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard.
Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.
General measures (Flammable Liquid)
Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures in the workplace. It is recommended to follow the Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk assessments for the identified uses, the risk can be regarded as controlled to an acceptable level.
Use in contained systems. Avoid ignition sources-No Smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid electrostatic discharge. Ground / bond container and recieving equipment. Use non-sparking tools. Comply with relevant national regulations. Review SDS for additional advice.

Section 2.2 Control of environmental exposure

Product characterstics

Predominantly hydrophobic.
Substance is complex UVCB

Duration, frequency and amount

Annual site tonnage (tonnes / year): 0.0035 tons yr
Continuous release.
Emission Days (days / year): 365 days / yr
Fraction of EU tonnage used in region: 0.1
Fraction of Regional tonnage used Locally: 1

- CONTINUED ON NEXT PAGE -

ANNEX: EXPOSURE SCENARIO (continued)

Maximum daily site tonnage (kg/d): 0.0096 kg / day
Regional use tonnage (tonnes / year): 7 tons/yr

Environmental factors not influenced by risk management

Local freshwater dilution factor: [EF1] 10
Local marine water dilution factor: [EF2] 100

Other given operational conditions affecting environmental exposure

Release fraction to air from process (initial release prior to RMM): 0.02
Release fraction to soil from process (initial release prior to RMM): 0.02
Release fraction to wastewater from process (initial release prior to RMM): 0.000001

Technical conditions and measures at process level (source) to prevent release

Common practices vary across sites thus conservative process release estimates used.

Technical onsite conditions and measures to reduce or limit discharges, air emissions and release to soil

If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of =: 0%
No secondary wastewater treatment required.
Risk from environmental exposure driven by freshwater.
Treat air emissions to provide a typical removal (or abatement?) efficiency of: Not Applicable
Treat onsite wastewater (prior to recieving water discharge) to provide the required removal (or abatement) effeciency of =: 0%

Organisation measures to prevent / limit release from site

Do not apply industrial sludge to natural soils.
Prevent discharge of undissolved substance to or recover from wastewater.
Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to municipal sewage treatment plant

Assumed domestic waste sewage treatment plant effluent flow is: [STP5] 2000m^3/day
Estimated substance removal from wastewater via domestic sewage treatment is: 96.2%
Not applicable as there is no release to wastewater.
The maximum allowable site tonnage (MSafe) based on domestic sewage plant effluent is: 0.86 kg / day
Total efficiency of removal from wastewater after onsiteand offsite (domestic treatment plant) RMMs is: 96.2%

Conditions and measures related to external treatment of waste for disposal

External treatment and disposal of waste should comply with local and / or national regulations [ETW3]

Conditions and measures related to external recovery of waste

External recovery and recycling of waste should comply with applicable local and / or national regulations [ERW1]

Section 3 Exposure Estimation

3.1. Health

Not applicable

- CONTINUED ON NEXT PAGE -

ANNEX: EXPOSURE SCENARIO (continued)

3.2. Environment

The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model. [EE2]

Section 4 Guidance to check compliance with the Exposure Scenario

4.1. Health

Available hazard data do not support the need for a DNEL to be established for other health effects. [G36]
Risk Management Measures are based on qualitative risk characterisation. [G37]

4.2. Environment

Further details on scaling and control technologies are provided in factsheet.
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.
Required removal efficiency for wastewater can be achieved using onsite / offsite technologies, either alone or in combination.

- END OF SAFETY DATA SHEET -