



SAFETY DATA SHEET

IRS2013 HARDENER

According to Regulation (EC) No 1907/2006, Annex II, as amended. COMMISSION REGULATION (EU) 2015/830 of 28 May 2015.

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name IRS2013 HARDENER

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

Identified uses Curing agent.

Uses advised against No specific uses advised against are identified.

1.3. Details of the supplier of the safety data sheet

Supplier Intertronics
Unit 12a
Station Field Industrial Estate
Banbury Road
Kidlington
Oxfordshire, OX5 1JD
+44 (0)1865842842

1.4. Emergency telephone number

Emergency telephone +44 (0)1285 712755 (Monday-Friday 8am-4.30pm)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Not Classified

Health hazards Acute Tox. 4 - H302 Acute Tox. 3 - H311 Skin Corr. 1B - H314 Skin Sens. 1 - H317 Repr. 2 - H361 STOT RE 1 - H372

Environmental hazards Aquatic Chronic 2 - H411

2.2. Label elements

Hazard pictograms



Signal word

Danger

Hazard statements

H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H361 Suspected of damaging fertility or the unborn child.
H372 Causes damage to organs through prolonged or repeated exposure.
H411 Toxic to aquatic life with long lasting effects.

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Precautionary statements	P261 Avoid breathing vapour/ spray.
	P270 Do not eat, drink or smoke when using this product.
	P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
	P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
	P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P333+P313 If skin irritation or rash occurs: Get medical advice/ attention.
Supplemental label information	EUH210 Safety data sheet available on request.
Contains	2-piperazin-1-ylethylamine, TOFA, reaction products with TEPA, 3,6,9-triazaundecamethylenediamine
Supplementary precautionary statements	P260 Do not breathe vapour/ spray.
	P264 Wash contaminated skin thoroughly after handling.
	P272 Contaminated work clothing should not be allowed out of the workplace.
	P273 Avoid release to the environment.
	P301+P312 IF SWALLOWED: Call a POISON CENTRE/doctor if you feel unwell.
	P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
	P302+P352 IF ON SKIN: Wash with plenty of water.
	P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
	P310 Immediately call a POISON CENTER/ doctor.
	P321 Specific treatment (see medical advice on this label).
	P362+P364 Take off contaminated clothing and wash it before reuse.
	P363 Wash contaminated clothing before reuse.
	P405 Store locked up.
	P501 Dispose of contents/ container in accordance with national regulations.

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

2-piperazin-1-ylethylamine			50-70%
CAS number: 140-31-8	EC number: 205-411-0	REACH registration number: 01-2119471486-30-XXXX	
Classification			
Acute Tox. 4 - H302			
Acute Tox. 3 - H311			
Skin Corr. 1B - H314			
Skin Sens. 1 - H317			
Repr. 2 - H361			
STOT RE 1 - H372			
Aquatic Chronic 3 - H412			

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TOFA, reaction products with TEPA	30-50%
CAS number: 68953-36-6	EC number: 273-201-6

Classification

Skin Sens. 1 - H317

Aquatic Chronic 2 - H411

3,6,9-triazaundecamethylenediamine	1-5%
CAS number: 112-57-2	EC number: 203-986-2

Classification

Acute Tox. 4 - H302

Acute Tox. 4 - H312

Skin Corr. 1B - H314

Skin Sens. 1 - H317

Aquatic Chronic 2 - H411

The full text for all hazard statements is displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	Get medical attention if any discomfort continues. Show this Safety Data Sheet to the medical personnel. Chemical burns must be treated by a physician.
Inhalation	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Loosen tight clothing such as collar, tie or belt. Maintain an open airway. Never give anything by mouth to an unconscious person. For breathing difficulties, oxygen may be necessary. If in doubt, get medical attention promptly.
Ingestion	Rinse mouth thoroughly with water. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Place unconscious person on their side in the recovery position and ensure breathing can take place. Get medical attention if a large quantity has been ingested. Get medical attention if symptoms are severe or persist.
Skin contact	It is important to remove the substance from the skin immediately. Remove contaminated clothing immediately and wash skin with soap and water. Continue to rinse for at least 15 minutes. Chemical burns must be treated by a physician. Use suitable lotion to moisturise skin. In the event of any sensitisation symptoms developing, ensure further exposure is avoided. Get medical attention if symptoms are severe or persist after washing.
Eye contact	Rinse immediately with plenty of water. Do not rub eye. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes and get medical attention.
Protection of first aiders	First aid personnel should wear appropriate protective equipment during any rescue.

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

General information	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	A single exposure may cause the following adverse effects: Severe irritation of nose and throat. Symptoms following overexposure may include the following: Corrosive to the respiratory tract.

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Ingestion	May cause sensitisation or allergic reactions in sensitive individuals. May cause chemical burns in mouth, oesophagus and stomach. Symptoms following overexposure may include the following: Severe stomach pain. Nausea, vomiting.
Skin contact	May cause skin sensitisation or allergic reactions in sensitive individuals. Causes severe burns. Symptoms following overexposure may include the following: Pain or irritation. Redness. Blistering may occur.
Eye contact	Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness.

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

Notes for the doctor	Treat symptomatically. May cause sensitisation or allergic reactions in sensitive individuals.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards	Containers can burst violently or explode when heated, due to excessive pressure build-up. This product is toxic. Severe corrosive hazard. Water used for fire extinguishing, which has been in contact with the product, may be corrosive.
Hazardous combustion products	Thermal decomposition or combustion products may include the following substances: Very toxic or corrosive gases or vapours. Oxides of carbon. Nitrous gases (NOx).

5.3. Advice for firefighters

Protective actions during firefighting	Avoid breathing fire gases or vapours. Evacuate area. Keep upwind to avoid inhalation of gases, vapours, fumes and smoke. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapours and protect men stopping the leak. Avoid discharge to the aquatic environment. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.
Special protective equipment for firefighters	Regular protection may not be safe. Wear chemical protective suit. Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Wear protective clothing as described in Section 8 of this safety data sheet. No action shall be taken without appropriate training or involving any personal risk. Do not touch or walk into spilled material. Avoid inhalation of vapours and spray/mists. Use suitable respiratory protection if ventilation is inadequate. Avoid contact with skin and eyes.
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6.2. Environmental precautions

Environmental precautions	Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment.
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6.3. Methods and material for containment and cleaning up

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Methods for cleaning up

Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. This product is corrosive. Provide adequate ventilation. Small Spillages: Collect spillage. Large Spillages: Absorb spillage with non-combustible, absorbent material. The contaminated absorbent may pose the same hazard as the spilled material. Collect and place in suitable waste disposal containers and seal securely. Label the containers containing waste and contaminated materials and remove from the area as soon as possible. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dangerous for the environment. Do not empty into drains. For waste disposal, see Section 13.

6.4. Reference to other sections

Reference to other sections

For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions

Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Handle all packages and containers carefully to minimise spills. Keep container tightly sealed when not in use. Avoid the formation of mists. This product is corrosive. Immediate first aid is imperative. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.

Advice on general occupational hygiene

Wash promptly if skin becomes contaminated. Take off contaminated clothing. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions

Store away from incompatible materials (see Section 10). Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage.

Storage class

Corrosive storage.

7.3. Specific end use(s)

Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Occupational exposure limits

No exposure limits known for ingredient(s).

2-piperazin-1-ylethylamine

No exposure limits known for ingredient(s).

TOFA, reaction products with TEPA

No exposure limits known for ingredient(s).

3,6,9-triazaundecamethylenediamine

No exposure limits known for ingredient(s).

2-piperazin-1-ylethylamine (CAS: 140-31-8)

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DNEL

Workers - Dermal; Short term systemic effects: 20 mg/kg/day
 Workers - Dermal; Long term systemic effects: 3.3 mg/kg/day
 Workers - Dermal; Short term local effects: 0.04 mg/cm²
 Workers - Dermal; Long term local effects: 0.006 mg/cm²
 Workers - Inhalation; Short term systemic effects: 21.4 mg/m³
 Workers - Inhalation; Long term systemic effects: 3.6 mg/m³
 Consumer - Inhalation; Short term systemic effects: 5.3 mg/m³
 Consumer - Oral; Short term systemic effects: 1.5 mg/kg/day
 Consumer - Oral; Long term systemic effects: 0.3 mg/kg/day
 Consumer - Oral; Short term local effects: 0.02 mg/m³
 Consumer - Dermal; Long term systemic effects: 1.7 mg/kg/day
 Consumer - Dermal; Long term local effects: 0.003 mg/cm²
 Consumer - Inhalation; Long term systemic effects: 0.9 mg/m³

PNEC

Fresh water; 0.058 mg/l
 marine water; 0.0058 mg/l
 Sediment (Freshwater); 215 mg/kg
 Sediment (Marinewater); 21.5 mg/kg
 Soil; 42.9 mg/kg
 STP; 250 mg/l

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate ventilation. Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Observe any occupational exposure limits for the product or ingredients.

Eye/face protection

Wear tight-fitting, chemical splash goggles or face shield. If inhalation hazards exist, a full-face respirator may be required instead. Personal protective equipment for eye and face protection should comply with European Standard EN166.

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. To protect hands from chemicals, gloves should comply with European Standard EN374. Gloves made from the following material may provide suitable chemical protection: Laminate of polyethylene and ethylene vinyl alcohol (PE/EVOH). Neoprene. Nitrile rubber. Butyl rubber. Rubber (natural, latex). The breakthrough time for any glove material may be different for different glove manufacturers. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.

Other skin and body protection

Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible. Wear appropriate clothing to prevent any possibility of skin contact.

Hygiene measures

Wash after use and before eating, smoking and using the toilet. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash it before reuse.

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Respiratory protection	Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with European Standard EN14387. Full face mask respirators with replaceable filter cartridges should comply with European Standard EN136. Half mask and quarter mask respirators with replaceable filter cartridges should comply with European Standard EN140.
Environmental exposure controls	Keep container tightly sealed when not in use. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Amber.
Odour	Characteristic. Irritating.
Initial boiling point and range	<200°C Estimated value.
Flash point	> 100°C Closed cup. Estimated value.
Relative density	0.99 @ 20°C
Solubility(ies)	Slightly soluble in water.

9.2. Other information

Other information	No information required.
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SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	See the other subsections of this section for further details.
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10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	No potentially hazardous reactions known.
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10.4. Conditions to avoid

Conditions to avoid	Avoid freezing. Avoid exposure to high temperatures or direct sunlight. Avoid the accumulation of vapours in low or confined areas.
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10.5. Incompatible materials

Materials to avoid	Avoid contact with acids. Avoid contact with oxidising agents.
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10.6. Hazardous decomposition products

Hazardous decomposition products	Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Corrosive gases or vapours. Oxides of carbon. Nitrous gases (NOx).
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SECTION 11: Toxicological information

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11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD₅₀) Acute Tox. 4 - H302 Harmful if swallowed.

ATE oral (mg/kg) 816.99

Acute toxicity - dermal

Notes (dermal LD₅₀) Acute Tox. 4 - H312 Harmful in contact with skin.

ATE dermal (mg/kg) 497.29

Acute toxicity - inhalation

Notes (inhalation LC₅₀) Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data Skin Corr. 1B - H314 Causes severe burns.

Serious eye damage/irritation

Serious eye damage/irritation Eye Dam. 1 - H318 Corrosive to skin. Corrosivity to eyes is assumed.

Respiratory sensitisation

Respiratory sensitisation Based on available data the classification criteria are not met.

Skin sensitisation

Skin sensitisation May cause skin sensitisation or allergic reactions in sensitive individuals.

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met.

IARC carcinogenicity None of the ingredients are listed or exempt.

Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met.

Reproductive toxicity - development Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard

Aspiration hazard Based on available data the classification criteria are not met.

General information

The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation

Corrosive to the respiratory tract. Symptoms following overexposure may include the following: Severe irritation of nose and throat.

Ingestion

May cause sensitisation or allergic reactions in sensitive individuals. May cause chemical burns in mouth, oesophagus and stomach. Symptoms following overexposure may include the following: Severe stomach pain. Nausea, vomiting.

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Skin contact	May cause skin sensitisation or allergic reactions in sensitive individuals. Causes severe burns. Symptoms following overexposure may include the following: Pain or irritation. Redness. Blistering may occur.
Eye contact	Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness.
Route of exposure	Ingestion Inhalation Skin and/or eye contact
Target organs	No specific target organs known.
Medical considerations	Skin disorders and allergies.

Toxicological information on ingredients.

2-piperazin-1-ylethylamine

Acute toxicity - oral

Notes (oral LD₅₀) 2,097 mg/kg, Oral, Rat

ATE oral (mg/kg) 500.0

Acute toxicity - dermal

Notes (dermal LD₅₀) 866 mg/kg, Dermal, Rabbit

ATE dermal (mg/kg) 300.0

Reproductive toxicity

Reproductive toxicity - fertility Fertility - NOAEL 150 mg/kg/day, Oral, Rabbit

Specific target organ toxicity - repeated exposure

STOT - repeated exposure NOAEL 53.5 mg/m³, Inhalation, Rat

Target organs Respiratory system, lungs

TOFA, reaction products with TEPA

Toxicological effects No information available.

3,6,9-triazaundecamethylenediamine

Acute toxicity - oral

Notes (oral LD₅₀) 3990 mg/kg, Oral, Rat

ATE oral (mg/kg) 500.0

Acute toxicity - dermal

ATE dermal (mg/kg) 1,100.0

SECTION 12: Ecological information

12.1. Toxicity

Toxicity Aquatic Chronic 3 - H412 Harmful to aquatic life with long lasting effects.

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: >420 mg/l, Poecilia reticulata (Guppy)
Estimated value.

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Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: >24 mg/l, Daphnia magna Estimated value.
Acute toxicity - aquatic plants	EC ₅₀ , 72 hours: >2 mg/l, Pseudokirchneriella subcapitata Estimated value.
Acute toxicity - microorganisms	EC ₅₀ , 2 hours: >500 mg/l, Nitrosomonas species Estimated value.

Ecological information on ingredients.

2-piperazin-1-ylethylamine

Acute aquatic toxicity

Acute toxicity - fish	LC ₅₀ , 96 hours: 2,190 mg/l, Fish
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 58 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC ₅₀ , 72 hours: 1000 mg/l, Algae
Acute toxicity - microorganisms	EC ₅₀ , 2 hours: 511 mg/l, Nitrosomonas species

TOFA, reaction products with TEPA

Toxicity	No information available.
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3,6,9-triazaundecamethylenediamine

Acute aquatic toxicity

Acute toxicity - fish	LC ₅₀ , 96 hours: 420 mg/l, Poecilia reticulata (Guppy)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 24 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC ₅₀ , 72 hours: 2 mg/l, Pseudokirchneriella subcapitata

12.2. Persistence and degradability

Persistence and degradability The degradability of the product is not known.

Ecological information on ingredients.

2-piperazin-1-ylethylamine

Persistence and degradability	Not readily biodegradable.
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TOFA, reaction products with TEPA

Persistence and degradability	No data available.
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3,6,9-triazaundecamethylenediamine

Persistence and degradability	No data available.
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12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

Ecological information on ingredients.

2-piperazin-1-ylethylamine

Bioaccumulative potential Not determined: $\log K_{ow} \leq 3$.

TOFA, reaction products with TEPA

Bioaccumulative potential No data available on bioaccumulation.

3,6,9-triazaundecamethylenediamine

Bioaccumulative potential No data available on bioaccumulation.

12.4. Mobility in soil

Mobility No data available.

Ecological information on ingredients.

2-piperazin-1-ylethylamine

Mobility No data available.

TOFA, reaction products with TEPA

Mobility No data available.

3,6,9-triazaundecamethylenediamine

Mobility No data available.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

Ecological information on ingredients.

2-piperazin-1-ylethylamine

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

TOFA, reaction products with TEPA

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

3,6,9-triazaundecamethylenediamine

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects None known.

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information

The generation of waste should be minimised or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

Disposal methods

Do not empty into drains. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Incineration or landfill should only be considered when recycling is not feasible.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID)	1760
UN No. (IMDG)	1760
UN No. (ICAO)	1760
UN No. (ADN)	1760

14.2. UN proper shipping name

Proper shipping name (ADR/RID)	CORROSIVE LIQUID, N.O.S. (N-Amindethylpiperzine Solution)
Proper shipping name (IMDG)	CORROSIVE LIQUID, N.O.S. (N-Amindethylpiperzine Solution)
Proper shipping name (ICAO)	CORROSIVE LIQUID, N.O.S. (N-Amindethylpiperzine Solution)
Proper shipping name (ADN)	CORROSIVE LIQUID, N.O.S. (N-Amindethylpiperzine Solution)

14.3. Transport hazard class(es)

ADR/RID class	8
ADR/RID classification code	C9
ADR/RID label	8
IMDG class	8
ICAO class/division	8
ADN class	8

Transport labels



14.4. Packing group

ADR/RID packing group	III
IMDG packing group	III
ICAO packing group	III

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ADN packing group III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant



14.6. Special precautions for user

EmS F-A, S-B

ADR transport category 3

Emergency Action Code 2X

Hazard Identification Number 80
(ADR/RID)

Tunnel restriction code (E)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 Not applicable.

and the IBC Code

SECTION 15: Regulatory information

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

National regulations	Health and Safety at Work etc. Act 1974 (as amended). The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"]. EH40/2005 Workplace exposure limits.
EU legislation	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). COMMISSION REGULATION (EU) 2015/830 of 28 May 2015. Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

Inventories

EU - EINECS/ELINCS

None of the ingredients are listed or exempt.

SECTION 16: Other information

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Abbreviations and acronyms used in the safety data sheet

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
 ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
 RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
 IATA: International Air Transport Association.
 ICAO: Technical Instructions for the Safe Transport of Dangerous Goods by Air.
 IMDG: International Maritime Dangerous Goods.
 CAS: Chemical Abstracts Service.
 ATE: Acute Toxicity Estimate.
 LC₅₀: Lethal Concentration to 50 % of a test population.
 LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).
 EC₅₀: 50% of maximal Effective Concentration.
 PBT: Persistent, Bioaccumulative and Toxic substance.
 vPvB: Very Persistent and Very Bioaccumulative.

Classification abbreviations and acronyms

Acute Tox. = Acute toxicity
 Eye Dam. = Serious eye damage
 Skin Corr. = Skin corrosion
 Skin Sens. = Skin sensitisation
 Aquatic Chronic = Hazardous to the aquatic environment (chronic)

Classification procedures according to Regulation (EC) 1272/2008

Acute Tox. 4 - H312: Acute Tox. 4 - H302: Eye Dam. 1 - H318: Skin Corr. 1B - H314: Skin Sens. 1 - H317: : Calculation method. Aquatic Chronic 3 - H412: : Calculation method.

Training advice

Only trained personnel should use this material.

Revision date

11/06/2020

Revision

8

Supersedes date

22/05/2018

SDS number

5168

Hazard statements in full

H302 Harmful if swallowed.
 H311 Toxic in contact with skin.
 H312 Harmful in contact with skin.
 H314 Causes severe skin burns and eye damage.
 H317 May cause an allergic skin reaction.
 H361 Suspected of damaging fertility or the unborn child.
 H372 Causes damage to organs through prolonged or repeated exposure.
 H411 Toxic to aquatic life with long lasting effects.
 H412 Harmful to aquatic life with long lasting effects.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.