

SAFETY DATA SHEET**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING:****1.1 Product identifier**

Product Name **Epoxy Smooth Flow – Resin**

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

Identified uses Resin

1.3 Details of the supplier of the safety data sheet

Supplier Eli-Chem Resins UK Ltd T/A FixMaster
Astra House
The Common
Cranleigh
Surrey
GU6 8RZ
01483 266636
support@FixMaster.co.uk

1.4 Emergency telephone
number 01483 266636 (Office hours only)

SECTION 2: HAZARDS IDENTIFICATION**2.1 Classification of the substance or mixture**

Classification (EC 1272/2008)

Physical and Chemical Hazards	Not classified.
Human health	Skin irrit. 2 – H315; Eye irrit. 2 – H319; Skin Sens. 1 – H317
Environment	Aquatic Chronic 2 – H411

Classification (1999/45/EEC) Xi: R36/38, R43. N; R51/53.

The full text for all R-phrases and Hazard statements are displayed in Section 16.

2.2 Label elements

Contains BISPHENOL F TYPE EPOXY RESIN
EPOXY RESIN (Number average MW <= 700)
OXIRANE, MONO [(C12-14- ALKYLOXY)METHYL] DERIVS

Label In Accordance With (EC) No. 1272/2008



Signal Word Warning
Hazard Statements H315 Causes skin irritation.

H317 May cause an allergic skin reaction.
 H319 Causes serious eye irritation.
 H411 Toxic to aquatic life with long lasting effects.

Precautionary Statements

P273 Avoid release to the environment.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P305+351-338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P313 Get medical advice/attention.
 P501 Dispose to licensed waste disposal site in accordance with local Waste Disposal Authority.

Supplemental label information

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
 P264 Wash ... thoroughly after handling.
 P272 Contaminated work clothing should not be allowed out of the workplace.
 IF ON SKIN: Wash with plenty of soap and water.
 P321 Specific treatment (see ... on this label).
 P332+313 If skin irritation occurs: Get medical advice/attention.
 P333+313 If skin irritation or rash occurs: Get medical advice/attention.
 P337 If eye irritation persists:
 P362 Take off contaminated clothing and wash before reuse.
 P363 Wash contaminated clothing before reuse.
 P391 Collect spillage.

Supplemental label information

EUH205 Contains epoxy constituents. May produce an allergic reaction.

2.3 Other hazards

Not Classified as PBT/vPvB by current EU criteria.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

BISPHENOL F TYPE EPOXY RESIN		15 – 17%
CAS-No.: 28064-14-4		EC No:
Classification (EC 1272/2008)	Classification 67/548/EEC)	
Skin Irrit. 2 - H315	R43	
Eye Irrit. 2 - H319	Xi; R36/38	
Skin Sens. 1 - H317	N; R51/53	
Aquatic Chronic 2 - H411		

EPOXY RESIN (Number average MW ≤ 700)		70 - 80%
CAS-No.: 25068-38-6 EC No: 500-033-5		
Classification (EC 1272/2008) Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Skin Sens. 1 - H317 Anuatic Chronic 2 - H411	Classification 67/548/EEC R43 Xi; R36/38 N; R51/53	

OXIRANE, MONO (C12-14- ALKYLOXY)METHYL) DERIVS		15 - 17%
CAS-No.: 68609-97-2 EC No:		
Classification (EC 1272/2008) Skin Irrit. 2 - H315 Skin Sens. 1 - H317	Classification 67/548/EEC R43 Xi; R36/38	

The full text for all R-phrases and hazard statements are displayed in Section 16.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General information

CAUTION! First aid personnel must be aware of own risk during rescue! Consult a physician for specific advice.

Inhalation

Move the exposed person to fresh air at once. Get medical attention if any discomfort continues.

Ingestion

DO NOT INDUCE VOMITING! Get medical attention immediately!

Skin contact

Remove contaminated clothing immediately and wash skin with soap and water: Get medical attention if any discomfort continues.

Eye contact

Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyes wide apart. Get medical attention immediately. Continue to rinse.

4.2 Most important symptoms and effects, both acute and delayed

Inhalation

May cause irritation to the respiratory system.

Ingestion

No specific symptoms noted.

Skin contact

Skin irritation. Allergic rash.

Eye contact

Irritating and may cause redness and pain.

4.3 Indication of any immediate medical attention and special treatment needed

Treat Symptomatically.

SECTION 5: FIRE FIGHTING MEASURES

5.1 Extinguishing media

Inhalation

May cause irritation to the respiratory system.

Ingestion

No specific symptoms noted.

Skin contact

Skin irritation. Allergic rash.

Eye contact

Irritating and may cause redness and pain.

5.2 Special hazards arising from the substance or mixture

Unusual Fire & Explosion Hazards

Heat may cause the containers to explode.

Specific hazards

In case of fire, toxic gases may be formed. Phenolic. Carbon monoxide (CO). Water.

5.3 Advice for firefighters

Special Fire Fighting Procedures

Move container from fire area if it can be done without risk. Water spray should be used to cool containers. Avoid water in straight hose stream; will scatter and spread fire. Keep run-off water out of sewers and water sources. Dike for water control. Dike and collect extinguishing water.

Protective equipment for fire fighters

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

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear protective clothing as described in Section 8 of this safety data sheet. Do not smoke, use open fire or other sources of ignition. Avoid inhalation of vapours and contact with skin and eyes.

6.2 Environmental precautions

Avoid discharge into drains, water courses or onto the ground. Spillages or uncontrolled discharges into watercourses must be IMMEDIATELY alerted to the Environmental Agency or other appropriate regulatory body.

6.3 Methods and material for containment and cleaning up

Absorb with sand or other inert absorbent. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.

6.4 Reference to other sections

Wear protective clothing as described in Section 8 of this safety data sheet. See section 11 for additional information on health hazards. Collect and dispose of spillage as indicated in section 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Keep away from heat, sparks and open flame. Wear full protective clothing for prolonged exposure and/or high concentrations. Provide good ventilation. Avoid inhalation of vapours/spray and contact with skin and eyes. Good personal hygiene is necessary. Wash hands and contaminated areas with water and soap before leaving the work site.

7.2 Conditions for safe storage, including any incompatibilities

Store in tightly closed original container in a dry, cool and well-ventilated place. Keep away from food, drink and animal feeding stuffs.

Keep away from heat, sparks and open flame.

7.3 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

Ingredient Comments

No exposure limits noted for ingredient(s).

8.2 Exposure controls

Protective equipment



Engineering measures

Provide adequate general and local exhaust ventilation.

Respiratory equipment

In case of inadequate ventilation use suitable respirator.

Hand protection

Protective gloves are recommended. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.

Eye protection

Wear goggles/face shield.

Other Protection

Provide eyewash station and safety shower.

Hygiene measures

Wash hands at the end of each work shift and before eating, smoking and using the toilet. Wash hands after contact.

Wash hands after handling.

Skin protection

Wear apron or protective clothing in case of contact.

Environmental Exposure Controls

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	Various colours
Odour	Mild
Solubility	Insoluble in water
Initial boiling point and boiling range (°C)	>200
Relative density	1.12 g/cm ³ 20 C
Evaporation rate	Not available
Viscosity	1200 – 1600 cP 25 C
Decomposition temperature (°C)	Not available
Odour threshold, lower	Not available
Odour threshold, upper	Not available
Flashpoint (°C)	> 150 CC (Closed cup)
Auto ignition temperature (°C)	Not determined
Flammability Limit – lower (%)	Not determined
Flammability Limit – upper (%)	Not determined
Partition Coefficient (N-Octanol/Water)	log Pow - 3.242 (CAS 25068-38-6) 3-5 (CAS 28064-14-4) 3.77 (CAS 68609-97-2)
Explosive properties	No data available
Oxidising properties	Not available

9.2 Other Information

Not available. Not determined.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

No specific reactivity hazards associated with this product.

10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

10.3 Possibility of hazardous reactions

Hazardous Polymerisation
 May polymerise.
 Polymerisation Description
 Avoid heat. Avoid contact with: Amines.

10.4 Conditions to avoid

Avoid heat, flames and other sources of ignition.

10.5 Incompatible materials

Material to avoid

Strong acids. Strong oxidizing substances. Amines. Strong alkalis.

10.6 Hazardous decomposition products

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Phenolic. Water. Carbon monoxide (CO).

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Toxic Dose 1 - LD 50

>2000 mg/kg (oral rat)

Other Health Effects

This substance has no evidence of carcinogenic properties.

Acute toxicity:

Acute Toxicity (Dermal LD50)

> 2000 mg/kg Rabbit

Acute Toxicity (Inhalation LC50)

Not determined.

Respiratory or skin sensitisation:

Skin sensitisation

Guinea Pig

Sensitising.

Germ cell mutagenicity:

Genotoxicity - In Vitro

Not available.

Genotoxicity - In Vivo

Not available.

Reproductive toxicity:

Reproductive Toxicity - Fertility

Not available.

Does not contain any substances known to be toxic to reproduction.

Specific target organ toxicity - single exposure:

STOT - Single exposure

Not available.

Specific target organ toxicity - repeated exposure:

STOT - Repeated exposure

Not available.

Inhalation

May cause irritation to the respiratory system.

Ingestion

No specific health warnings noted.

Skin contact

Irritating to skin. May cause sensitization by skin contact.

Eye contact

Irritating to eyes.

SECTION 12: ECOLOGICAL INFORMATION**Ecotoxicity**

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

12.1 Toxicity

LG 50, 96 Hrs, Fish mg/l	(GAS 25068-38-6) 2 mg/l (GAS 68609-97-2) >5000 mg/l
EC 50, 48 Hrs. Daphnia, mg/l	(GAS 25068-38-6) 2 mg/l (GAS 68609-97-2) >5000 mg/l
Acute Toxicity - Aquatic Plants	Not available.
Acute Toxicity – Microorganisms	Not available.
Chronic Toxicity - Fish Early life Stage	Not available.
Chronic Toxicity - Aquatic Invertebrates	NOEC 21 days (GAS 25068-38-6) 0.3 mg/l Daphnia magna
Acute Toxicity – Terrestrial	Not available.

12.2 Persistence and degradability*Degradability*

The product is not readily biodegradable.

Biodegradation

Degradation (12%) (GAS 25068-38-6) 28 days

Degradation (87%) (GAS 68609-97-2) 28 days

12.3 Bioaccumulative potential

Bioaccumulation factor

BCF 160 (GAS 68609-97-2)

Partition coefficient

log Pow - 3.242 (CAS 25068-38-6) 3-5 (GAS 28064-14-4) 3.77 (GAS 68609-97-2)

12.4 Mobility in soil

Mobility:

No data available.

Absorption/desorption Coefficient

Soil Koc - 1, 800-4, 400 (GAS 25068-38-6) >5000 (GAS 68609-97-2)

12.5 Results f PBT and vPvB assessment

Not classified as PBT/vPvB by current EU criteria.

12.6 Other adverse effects

None known.

SECTION 13: DISPOSAL CONSIDERATIONS

General information

Waste is classified as hazardous waste. Disposal to licensed waste disposal site in accordance with the local Waste Disposal Authority.

13.1 Waste treatment methods

Dispose of waste and residues in accordance with local authority requirements.

SECTION 14: TRANSPORT INFORMATION

14.1 UN Number

UN No. (ADR/RID/ADN)	3082
UN No. (IMDG)	3082
UN No. (ICAO)	3082

14.2 UN proper shipping name

Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy resin)

14.3 Transport hazard class(es)

ADR/RID/ADN Class	9
ADR/RID/ADN Class	Class 9: Miscellaneous dangerous substances and articles.
ADR Label No.	9
IMDG Class	9
ICAO Class/Division	9

Transport labels



14.4 Packing group

ADR/RID/ADN Packing group	III
IMDG Packing group	III
ICAO Packing group	III

14.5 Environmental hazards

Environmentally Hazardous substance/marine pollutant



14.6 Special precautions for user

EMS	F-A, S-F
Emergency Action Code	3Z
Hazard No. (ADR)	90
Tunnel Restriction Code(E)	

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable.

SECTION 15: REGULATORY INFORMATION

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

UK Regulatory References

Health and Safety at Work Act 1974. The Control of Substances Hazardous to Health Regulations 2002 (S.I 2002 No. 2677) with amendments. Chemicals (Hazard Information & Packaging) Regulations.

Environmental Listing

Control of Pollution Act 1974. Rivers (Prevention of Pollution) Act 1961. Statutory Instruments

The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (S.I 2009 No. 716). Control of Substances Hazardous to Health.

Approved Code Of Practice

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

Guidance Notes

CHIP for everyone HSG(108). Introduction to Local Exhaust Ventilation HS(G)37. Workplace Exposure Limits EH40.

EU Legislation

Dangerous Preparations Directive 1999/45/EC.

National Regulations

The Chemicals (Hazard Information and Packaging for Supply) Regulations 2002. No. 1689. Workplace Exposure Limits 2005 (EH40)

Health and Safety at Work Act (As Amended) 1974

Control of Substances Hazardous to Health Regulations 2002 (as amended)

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), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

15.2 Chemical Safety Assessment

No chemical safety assessment has been carried out.

SECTION 16: OTHER INFORMATION

Risk Phrases In Full

R36/38	Irritating to eyes and skin.
R38	Irritating to skin.
R43	May cause sensitization by skin contact.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Hazard Statements In Full

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H411	Toxic to aquatic life with long lasting effects.

Disclaimer: 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.

SAFETY DATA SHEET**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING:****1.1 Product identifier**

Product Name **Epoxy Smooth Flow - Hardener**

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

Use of the substance/mixture: Curing Agent

Restrictions on use: No data available.

1.3 Details of the supplier of the safety data sheet

Supplier Eli-Chem Resins UK Ltd T/A FixMaster
Astra House
The Common
Cranleigh
Surrey
GU6 8RZ
01483 266636
support@FixMaster.co.uk

**1.4 Emergency telephone
number**

01483 266636 (office hours only)

SECTION 2: HAZARDS IDENTIFICATION**2.1 Classification of the substance or mixture**

Classification under CLP: Acute Tox. 4: H302; Skin Corr. 1B: H314; Skin Sens. 1A: H317; Repr. 2: H361fd;
Aquatic Chronic 1: H410; -: EUH071

Most important adverse effects: Harmful if swallowed. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Suspected of damaging fertility. Suspected of damaging the unborn child. Very toxic to aquatic life with long lasting effects. Corrosive to the respiratory tract.

2.2 Label elements

Labelling according to Regulation (EC) No. 1272/2008.

The product is classified and labelled according to the CLP regulation.

Hazard pictograms/symbols



Signal word Danger

Hazard statements

H302: Harmful if swallowed.
 H314: Causes severe skin burns and eye damage.
 H317: May cause an allergic skin reaction.
 H361fd: Suspected of damaging fertility. Suspected of damaging the unborn child.
 H410: Very toxic to aquatic life with long lasting effects.
 EUH071: Corrosive to the respiratory tract.

Hazard pictograms: GHS05: Corrosion
 GHS09: Environmental
 GHS08: Health hazard
 GHS07: Exclamation mark

Precautionary statements

P201: Obtain special instructions before use.
 P280: Wear protective gloves/protective clothing/eye protection/face protection.
 P281: Use personal protective equipment as required.
 P303+361+353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P310: Immediately call a POISON CENTRE/DOCTOR.

2.3 Other hazards

Components of the product may affect the nervous system. May cause sensitization by skin contact. Severe respiratory irritant. Severe skin irritant.

PBT: This product is not identified as a PBT/vPvB substance.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical characterization: Mixtures

Description: Mixture of the substances listed below with harmless additions

Components	EINECS / ELINCS Number	CAS Number	Percent
Benzyl Alcohol	202-859-9	100-51-6	10-30%
4-Tert-Butylphenol	202-679-0	98-54-4	10-30%
M-Phenylenebis (Methylamine)	216-032-5	1477-55-0	10-30%
Trimethylhexane-1,6-Diamine	247-134-8	25620-58-0	1-10%
Nonylphenol	246-672-0	25154-52-3	10-30%

Components	Classification (CLP)
Benzyl Alcohol	Acute Tox. 4: H332 Acute Tox. 4: H302
4-Tert-Butylphenol	Repr. 2 ;H361f Skin Irrit. 2: H315 Eye Dam. 1: H318
M-Phenylenebis (Methylamine)	-
Trimethylhexane-1, 6-Diamine	-
Nonylphenol	Repr. 2: H361fd Acute Tox. 4: H302 Skin Corr. 1B: H314 Aquatic Acute 1: H400 Aquatic Chronic 1: H410

Contains: POLYAMINE ADDUCT

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General advice	Seek medical advice. If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately.
Eye contact	Bathe the eye with running water for 15 minutes. Transfer to hospital for specialist examination.
Skin contact	Remove all contaminated clothes and footwear immediately unless stuck to skin. Drench the affected skin with running water for 10 minutes or longer if substance is still on skin. Transfer to hospital if there are burns or symptoms of poisoning.

NOTE TO PHYSICIANS: Application of corticosteroid cream has been effective in treating skin irritation.

- Ingestion** If conscious, give half a litre of water to drink immediately. If unconscious, check for breathing and apply artificial respiration if necessary. If unconscious and breathing is OK, place in the recovery position. Do not induce vomiting. Give 1 cup of water to drink every 10 minutes. Transfer to hospital as soon as possible.
- Inhalation** Remove casualty from exposure ensuring one's own safety whilst doing so. If conscious, ensure the casualty sits or lies down. If breathing becomes bubbly, have the casualty sit and provide oxygen if available. If unconscious, check for breathing and apply artificial respiration if necessary. If unconscious and breathing is OK, place in the recovery position. Transfer to hospital as soon as possible.

4.2 Most important symptoms and effects, both acute and delayed

- Skin Contact:** If absorbed through the skin, may cause central nervous system effects, such as headache, nausea, dizziness, confusion, breathing difficulties.
- Eye Contact:** Corneal edema can cause the perception of "blue haze" or "fog" around lights, although this is a temporary effect and has no known residual effect. Product vapor can cause glaucopsia (corneal edema) when absorbed into the tissue of the eye from the atmosphere.
- Ingestion:** May cause central nervous system effects, such as headache, nausea, vomiting, abdominal pain, dizziness, confusion, breathing difficulties. Severe cases of over exposure can result in respiratory failure.
- Inhalation** Harmful if inhaled and may cause delayed lung injury. May cause central nervous system effects, such as headache, nausea, dizziness, confusion or breathing difficulties. Severe cases of overexposure can result in respiratory failure. May cause nose, throat and lung irritation. Inhalation of vapors and/or aerosols in high concentration may cause irritation of respiratory system.

4.3 Indication of any immediate medical attention and special treatment needed

No data available.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing agents Alcohol-resistant foam. Carbon dioxide (CO₂). Dry chemical powder. Dry sand or Limestone.

5.2 Special hazards arising from the substance or mixture

May generate ammonia gas. May generate toxic nitrogen oxide gases. Use of water may result in the formation of very toxic aqueous solutions. Do not allow run-off from fire-fighting to enter drains or water courses. May

generate toxic, irritating or flammable combustion products. Incomplete combustion may form carbon monoxide. Ammonia gas may be liberated at high temperatures. In case of incomplete combustion an increased formation of oxides of nitrogen (NO_x) is to be expected. May generate carbon monoxide and ammonia gas. A sudden reaction and fire may result if product is mixed with an oxidizing agent. Personnel in vicinity and downwind should be evacuated.

5.3 Advice for firefighters

Avoid contact with the skin. A face shield should be worn. Use personal protective equipment. Wear self-contained breathing apparatus for fire-fighting if necessary. Retain expended liquids from fire fighting for later disposal.

Further information: Do not allow run-off fire-fighting to enter drains or water courses.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use self-contained breathing apparatus and chemically protective clothing. Wear suitable protective clothing, gloves and eye/face protection. Evacuate personnel to safe areas. Open enclosed spaces to outside atmosphere.

6.2 Environmental precautions

Contain the spillage using bunding. Do not discharge into drains or rivers.

6.3 Methods and material for containment and cleaning up

Approach suspected leak areas with caution. Place in appropriate chemical waste container. Transfer to a closable, labelled salvage container for disposal by an appropriate method. Clean up personnel must be equipped with self-contained breathing apparatus and butyl rubber protective clothing.

Additional advice: If possible stop flow of product.

6.4 Reference to other sections

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Do not use sodium nitrate or other nitrosating agents in formulations containing this product. Suspected cancer causing nitrosamines could be formed. Emergency showers and eye wash stations should be readily accessible. Adhere to work practice rules established by government regulations. Avoid breathing vapors and/or aerosols. Avoid contact with eyes or skin. Use only in well-ventilated areas. Use personal protective equipment. When using, do not eat, drink or smoke.

7.2 Conditions for safe storage, including any incompatibilities

Storage Conditions: Do not store near acids. Keep container tightly closed. Store in a cool, well ventilated area. Do not store in reactive metal containers. Keep from freezing.

Suitable Packaging: Do not store in reactive metal containers.

7.3 Specific end use(s)

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Workplace exposure limits: No data available

DNEL/PNEC Values

DNEL/PNEC: No data available

8.2 Exposure controls

Engineering measures: Provide readily accessible eye wash stations and safety showers. Provide natural or explosion-proof ventilation adequate to ensure concentrations are kept below exposure limits.

Respiratory protection: Self-contained breathing apparatus must be available in case of emergency.

Hand protection: Neoprene gloves. PVC gloves. Butyl gloves. Nitrile gloves. Impermeable gloves. The breakthrough time of the selected glove(s) must be greater than the intended use period.

Skin protection: Protective clothing with elasticated cuffs and closed neck. Discard contaminated leather articles. Provide readily accessible eye wash stations and safety showers. Wash at the end of each work shift and before eating, smoking or using the toilet.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Liquid
Colour	Pale yellow
Odour	Ammoniacal
Oxidising	Non-oxidising (by EC criteria)
Relative density	0.99
Melting point/freezing point	No data available
Boiling point and boiling range	> 200.00
Vapour pressure	10.34mmHg
Water solubility	< 0.1 g/l
Partition coefficient (n-octanol/water)	No data available
pH	Alkaline

Lower and upper explosion/
Flash point >100
Autoflammability No data available

9.2 Other Information

Other Information: No data available

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

No data available.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

No data available.

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Reactive metals (e.g. sodium, calcium, zinc etc.). Materials reactive with hydroxyl compounds.
CAUTION! N-Nitrosamines, many of which are known to be potent carcinogens, may be formed when the product comes in contact with nitrous acid, nitrites or atmospheres with high nitrous oxide concentrations.
Mineral acids. Organic Acids (i.e. acetic acid, citric acid etc). Sodium Hypochlorite. Product slowly corrodes copper, aluminium, zinc and galvanized surfaces. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion. Oxidizing agents.

10.6 Hazardous decomposition products

In case of fire hazardous decomposition products may be produced such as: Carbon Monoxide – Carbon Dioxide (CO²) – Nitric Acid – Ammonia – Nitrogen Oxides (NO_x) – Nitrogen Oxide can react with water vapors to form corrosive nitric acid. – Aldehydes. Nitrosamine. Flammable hydrocarbon fragments (e.g. acetylene).

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Toxicity Values:

Route	Species	Test	Value	Units
ORL	RAT	LD50	2,951	Mg/kg

Hazardous Ingredients:

BENZYL ALCOHOL

IVN	RAT	LD50	53	Mg/kg
ORL	MUS	LD50	1360	Mg/kg
ORL	RAT	LD50	1230	Mg/kg

NONYLPHENOL

ORL	MUS	LD50	1231	Mg/kg
ORL	RAT	LD50	580	Mg/Kg

Symptoms/routes of exposure

- Skin contact:** If absorbed through the skin, may cause central nervous system effects, such as headache, nausea, dizziness, confusion, breathing difficulties.
- Eye contact:** Corneal edema can cause the perception of “blue haze” or “fog” around lights, although this is a temporary effect and has no known residual effect. Product vapor can cause glaucopsia (corneal edema) when absorbed into the tissue of the eye from the atmosphere.
- Ingestion:** May cause central nervous system effects, such as headache, nausea, vomiting, abdominal pain, dizziness, confusion, breathing difficulties. Severe cases of overexposure can result in respiratory failure.
- Inhalation:** Harmful if inhaled and may cause delayed lung injury. May cause central nervous system effects, such as headache, nausea, dizziness, confusion or breathing difficulties. Severe cases of overexposure can result in respiratory failure. May cause nose, throat and lung irritation. Inhalation of vapors and/or aerosols in high concentration may cause irritation or respiratory system.

SECTION 12: ECOLOGICAL INFORMATION
12.1 Toxicity

Ecotoxicity values: No data available.

12.2 Persistence and degradability

No data available.

12.3 Bioaccumulative potential

No data is available on the product itself.

Bioaccumulation – Components

Benzyl Alcohol – Low bioaccumulation potential.

Nonylphenol – Moderate bioaccumulation potential.

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

PBT identification: This product is not identified as a PBT/vP/vB substance.

12.6 Other adverse effects

Aquatic toxicity: No data is available on the product itself.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Recovery operations: Waste from residues/unused : Contact supplier if guidance is required.

Disposal of packaging: Dispose of container and unused contents in accordance with federal state and local requirements.

NB: The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

SECTION 14: TRANSPORT INFORMATION

ADR	
UN/ID No.	UN2735
Proper shipping name	AMINES, LIQUID, CORROSIVE, N.O.S. (Benzene-1,3-Dimethaneamine (MXDA), Trimethylhexane-1, 5-Diamine)
Class/Division	8
Packing group	II
Environmentally Hazardous	Yes
Tunnel Code	(E)
Marine Pollutant	Yes

Further information: The transportation information is not intended to convey all specific regulatory data relating to this material. For complete transportation information, contact an Air Products customer service representative.

SECTION 15: REGULATORY INFORMATION

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

15.2 Chemical Safety Assessment

SECTION 16: OTHER INFORMATION

USA – TSCA	:	Included on Inventory
EU – EINECS	:	Included on EINECS inventory or polymer substance, monomers included on EINECS Inventory or no longer polymer.
Canada – DSL	:	Included on inventory.
Australia – AICS	:	Included on inventory.
Japan – ENCS	:	Included on inventory.
South Korea - ECL	:	Included on inventory.
China – SEPA	:	Included on inventory.

Philippines – PICCS	:	Included on inventory.
Phrases used in s.2 and s.3	:	
EUH071	:	Harmful if swallowed.
H314	:	Causes severe skin burns and eye damage.
H315	:	Causes skin irritation.
H317	:	May cause an allergic skin reaction.
H318	:	Causes serious eye damage.
H332	:	Harmful if inhaled.
H361f	:	Suspected of damaging fertility.
H361fd	:	Suspected of damaging fertility. Suspected of damaging the unborn child.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.

Abbreviations and acronyms:

ATE - Acute Toxicity Estimate

CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008

REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006

EINECS - European Inventory of Existing Commercial Chemical Substances

ELINCS - European List of Notified Chemical Substances

CAS# - Chemical Abstract Service number

PPE - Personal Protection Equipment

Kow - octanol-water partition coefficient

DNEL - Derived No Effect Level

LC50 - Lethal Concentration to 50 % of a test population

LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose)

NOEC - No Observed Effect Concentration

PNEC - Predicted No Effect Concentration

RMM - Risk Management Measure

OEL - Occupational Exposure Limit

PBT - Persistent, Bioaccumulative and Toxic

vPvB - Very Persistent and Very Bioaccumulative

STOT - Specific Target Organ Toxicity

CSA - Chemical Safety Assessment

EN - European Standard

UN - United Nations

ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road

IATA – International Air Transport Association

IMDG - International Maritime Dangerous Goods

RID - Regulations concerning the International Carriage of Dangerous Goods by Rail

WGK - Water Hazard Class

Key literature references and sources for data:

ECHA - Guidance on the compilation of safety data sheets

ECHA - Guidance on the application of the CLP Criteria ARIEL database

Disclaimer: 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.