



# SAFETY DATA SHEET

SDS No. 1050A-IRL

according to Regulation (EC)

No. 1907/2006 as amended

Version 1 Revision Date 11/06/2017

## Section 1 - Identification of the substance/mixture and of the company/undertaking

### 1.1 Product Identifier

Trade Name: **Tarbender® Part A**

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

General Use: Formulated Epoxy Resin

Restrictions on Use: None known

### 1.3 Details of the supplier of the safety data sheet:

Company: Smooth-On, Inc.,  
5600 Lower Macungie Rd., Macungie, PA 18062

Telephone: Phone (610) 252-5800

E-mail address of person responsible for the SDS: Visit our website at [www.smooth-on.com](http://www.smooth-on.com) or email [sds@smooth-on.com](mailto:sds@smooth-on.com)

1.4 **Emergency Contact:** Chem-Tel Domestic: 800-255-3924 International: 813-248-0585

#### National Poisons Information Center (NPIC) in Ireland

Tel: +353 1 8092566, email: [npicdublin@beaumont.ie](mailto:npicdublin@beaumont.ie), website: [www.poisons.ie](http://www.poisons.ie)

## Section 2 – Hazard(s) Identification

### 2.1 Classification of the substance or mixture:

#### Classification (REGULATION (EC) No 1272/2008) as amended

**H315** Skin irritation – Category 2

**H317** Skin sensitization – Category 1

**H319** Eye irritation – Category 2

For the full text of the H-Statements mentioned in this Section, see Section 16

### 2.2 Label elements, including precautionary statements

#### Labelling (REGULATION (EC) No 1272/2008) as amended



**Pictogram(s):**

**Signal word:** Warning

#### Health Hazards:

H315 Causes skin irritation

H317 May cause an allergic skin reaction

H319 Causes serious eye irritation

**Precautionary statement(s):**

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
 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.  
 P337 + P313 If eye irritation persists: Get medical advice/attention.  
 P362 + P364 Take off contaminated clothing and wash it before reuse.  
 P501 Dispose of contents/container according to local, state and federal laws.

**Supplemental Hazard Statement**

EUH205 Contains epoxy constituents. May produce an allergic reaction.

**2.3 Other hazards**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**Section 3 - Composition / Information on Ingredients****3.1 Substances/Mixtures****Hazardous ingredients according to Regulation (EC) No 1272/2008**

Chemical name	Classification	Concentration
<b>Propane, 2,2-bis[p-(2,3-epoxypropoxy) phenyl]-, polymers</b>		
CAS-No. 25085-99-8	Skin Irrit. 2; Skin Sens. 1; Eye Irrit. 2; H315, H317, H319	25% – 100%

For the full text of the H-Statements mentioned in this Section, see Section 16.

**Section 4 - First Aid Measures****4.1 Description of first aid measures****Inhalation**

Remove source(s) of contamination and move victim to fresh air. If breathing has stopped, give artificial respiration, then oxygen if needed. Contact physician immediately.

**Eye Contact**

Flush eyes with plenty of water. If irritation persists, seek medical attention.

**Skin Contact**

In case of skin contact, wash thoroughly with soap and water.

**Ingestion**

Do not induce vomiting unless instructed by a physician. Never give anything by mouth to an unconscious person.

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

None known.

**4.3 Indication of any immediate medical attention and specific treatment needed.**

None known.

## Section 5 - Fire-Fighting Measures

### 5.1 Extinguishing Media

Water Fog, Dry Chemical, and Carbon Dioxide Foam

### 5.2 Special hazards arising from the substance or mixture

During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Phenolics. Carbon monoxide. Carbon dioxide.

### 5.3 Advice for firefighters

Use water spray to cool fire-exposed surfaces and to protect personnel. Shut off "fuel" to fire. If a leak or spill has not ignited, use water spray to disperse the vapors. Either allow fire to burn under controlled conditions or extinguish with foam or dry chemical. Try to cover liquid spills with foam. Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full-face piece operated in pressure demand or positive-pressure mode.

## Section 6 - Accidental Release Measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Only properly protected personnel should remain in the spill area; dike and contain spill. Stop or reduce discharge if it can be done safely.

### 6.2 Environmental precautions

Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains or unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers. No special environmental precautions required.

### 6.3 Methods and material for containment and cleaning up

Put on appropriate protective gear including approved self-contained breathing apparatus, rubber boots and heavy rubber gloves. Dike and contain spill; absorb or scrape up excess into suitable container for disposal; wash area with dilute ammonia solution. Stop or reduce discharge if it can be done safely.

### 6.4 Reference to other sections

See Section 3 for list of Hazardous Ingredients; Sections 8 for Exposure Controls; and Section 13 for Disposal.

## Section 7 - Handling and Storage

### 7.1 Precautions for safe handling

Use good general housekeeping procedures. Wash hands after use. Do not get in eyes, on skin or on clothing. Do not breathe vapors or mists. Use good personal hygiene practices.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep container(s) tightly closed and properly labeled. Store in cool, dry, well ventilated place away from heat, direct sunlight, strong oxidizers and any incompatibles. Store in approved containers and protect against physical damage. Keep containers securely sealed when not in use. Indoor storage should meet local standards and appropriate fire codes. Containers that have been opened must be carefully resealed to prevent leakage. Empty containers retain residue and may be dangerous. Avoid water contamination.

### 7.3 Specific end use(s)

These precautions are for room temperature handling. Other uses including elevated temperatures or aerosol/spray applications may require added precautions.

## Section 8 - Exposure Controls / Personal Protection

### 8.1 Control parameters

Contains no substances with occupational exposure limit values.

### 8.2 Exposure controls

#### Engineering measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Personal protective equipment

##### Eye protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves must satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

##### Skin and body protection

Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

##### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

##### Protective measures

Ensure that eye flushing systems and safety showers are located close to the working place.

## Section 9 - Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties:

<b>Appearance:</b>	Viscous liquid	<b>Vapor pressure:</b>	<0.0000001 Pa
<b>Odor:</b>	Mild	<b>Vapor density (Air=1):</b>	No data
<b>Odor threshold:</b>	No data	<b>Relative density:</b>	1.16 g/cm <sup>3</sup> @ 20°C
<b>pH:</b>	No data	<b>Solubility in water:</b>	5.4 - 8.4 mg/l at 20 °C
<b>Melting / freezing point:</b>	No data	<b>Partition coefficient (n-octanol/water):</b>	log Pow'.3.242 Estimated

<b>Low / high boiling point:</b>	320°C	<b>Auto-ignition temperature:</b>	No data
<b>Flash Point:</b>	264 - 268°C	<b>Decomposition temperature:</b>	No data
<b>Evaporation rate:</b>	No data	<b>Viscosity:</b>	11,000-14,000 mPas
<b>Flammability (solid, gas):</b>	No data	<b>Explosive properties:</b>	No data
<b>Upper/lower flammability or explosive limits:</b>	No data	<b>Oxidizing properties:</b>	No data

## Section 10 - Stability and Reactivity

### 10.1 Reactivity

No hazardous reactions if stored and handled as prescribed/indicated., No corrosive effect on metal. Not fire propagating.

### 10.2 Chemical stability

These products are stable at room temperature in closed containers under normal storage and handling conditions.

### 10.3 Possibility of hazardous reactions

Hazardous polymerization cannot occur.

### 10.4 Conditions to avoid

Avoid short term exposures to temperatures above 300 °C  
Potentially violent decomposition can occur above 350 °C  
Avoid prolonged exposure to temperatures above 250 °C  
Generation of gas during decomposition can cause pressure in closed systems. Pressure build-up can be rapid.

### 10.5 Incompatible materials

Strong bases and acids.

### 10.6 Hazardous decomposition products

Decomposition products depend upon temperature, air supply and the presence of other materials. Gases are released during decomposition. Uncontrolled exothermic reaction of epoxy resins release phenolics, carbon monoxide, and water.

## Section 11- Toxicological Information

### 11.1 Information on toxicological effects

#### Acute Toxicity

##### Acute oral toxicity

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.  
LD50, Rat, >15,000 mg/kg

##### Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.  
1D50, Rabbit, 23,000 mg/kg

##### Acute inhalation toxicity

At room temperature, exposure to vapor is minimal due to low volatility. Vapor from heated material, mist or aerosols may cause respiratory irritation.

The LC50 has not been determined.

**Skin Corrosion/Irritation**

Prolonged contact may cause skin irritation with local redness.

**Serious Eye Damage/Irritation**

May cause eye irritation.  
Corneal injury is unlikely.

**Respiratory/Skin Sensitization**

For similar material(s):  
Has caused allergic skin reactions in humans.  
Has demonstrated the potential for contact allergy in mice.

For respiratory sensitization:  
No relevant data found.

**Germ Cell Mutagenicity**

No data available

**Carcinogenicity**

Many studies have been conducted to assess the potential carcinogenicity of diglycidyl ether of bisphenol A (DGEBA). Indeed, the most recent review of the available data by the International Agency for Research on Cancer (IARC) has concluded that DGEBA is not classified as a carcinogen. Although some weak evidence of carcinogenicity has been reported in animals, when all of the data are considered, the weight of evidence does not show that DGEBA is carcinogenic.

**Reproductive Toxicity**

No data available

**Specific Target Organ Toxicity – Single Exposure**

No data available

**Specific Target Organ Toxicity – Repeated Exposure**

Except for skin sensitization, repeated exposures to low molecular weight epoxy resins of this type are not anticipated to cause any significant adverse effects.

**Aspiration Hazard**

No data available

**Potential Health Effects – Miscellaneous**

No data available

**Section 12 - Ecological Information****12.1 Toxicity****Acute toxicity to fish**

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

LC50, *Oncorhynchus mykiss* (rainbow trout), semi-static test, 96 Hour, 2 mg/l

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna (Water flea), static test, 48 Hour, 1.8 mg/l

**Acute toxicity to algae/aquatic plants**

ErC50, Scenedesmus capricornutum (fresh water algae), static test, 72 Hour, Growth rate inhibition, 11 mg/l

**Toxicity to bacteria**

LC50, Bacteria, 1B Hour, Respiration rates > 42.6 mg/l

**Chronic aquatic toxicity**

**Chronic toxicity to aquatic invertebrates**

MATC (Maximum Acceptable Toxicant Level), Daphnia magna (Water flea), semi-static test, 21 d, number of offspring, 0.55 mg/l

**12.2 Persistence and Degradability**

Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions. 10-day Window: Not applicable

**Biodegradation:** 12 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 3028 or Equivalent

**Theoretical Oxygen Demand:** 2.35 mg/mg Estimated.

**Photodegradation**

**Test Type:** Half-life (indirect photolysis)

**Sensitizer:** OH radicals

**Atmospheric half-life:** 1.92 Hour

**Method:** Estimated.

**12.3 Bioaccumulative Potential**

**Bioaccumulation:** Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

**Partition coefficient:** n octanol/water (log Pow): 3.242 at 25 °C Estimated.

**12.4 Mobility in Soil**

Potential for mobility in soil is low (Koc between 500 and 2000). Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process. Partition coefficient(Koc): 1800 - 4400 Estimated.

**12.5 Results of PBT and vPvB assessment**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**12.6 Other Adverse Effects**

No data available

**Section 13 - Disposal Considerations**

**13.1 Waste treatment methods**

**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company.

### **Contaminated packaging**

Dispose of as unused product.

## **Section 14 - Transport Information**

### **14.1 UN number**

ADR/RID: -                      IMDG: -                      IATA: -

### **14.2 UN proper shipping name**

ADR/RID:     Not dangerous goods  
 IMDG:        Not dangerous goods  
 IATA:         Not dangerous goods

### **14.3 Transport hazard class(es)**

ADR/RID: -                      IMDG: -                      IATA: -

### **14.4 Packing group**

ADR/RID: -                      IMDG: -                      IATA: -

### **14.5 Environmental hazards**

ADR/RID: no                      IMDG Marine pollutant: no      IATA: no

### **14.6 Special precautions for user**

No data available

### **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable

## **Section 15 - Regulatory Information**

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

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

### **15.2 Chemical safety assessment**

No chemical safety assessment has been carried out for this substance/mixture by the supplier.

## **16 - Other Information**

### **Full text of H-Statements referred to under Sections 2 and 3.**

H315       Causes skin irritation  
 H317       May cause an allergic skin reaction  
 H319       Causes serious eye irritation

### **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

**Disclaimer**

The information contained in this Safety Data Sheet (SDS) is considered accurate as of the version date. However, no warranty is expressed or implied regarding the accuracy of the data. Since the use of this product is not within the control of Smooth-On Inc., it is the user's obligation to determine the suitability of the product for its intended application and assumes all risk and liability for its safe use.



# SAFETY DATA SHEET

SDS No. 1050B-IRL

according to Regulation (EC)

No. 1907/2006 as amended

Version 1 Revision Date 11/10/2017

## Section 1 - Identification of the substance/mixture and of the company/undertaking

### 1.1 Product Identifier

Trade Name: **Tarbender® Part B**

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

General Use: Epoxy Curing Agent

Restrictions on Use: None known

### 1.3 Details of the supplier of the safety data sheet:

Company: Smooth-On, Inc.,  
5600 Lower Macungie Rd., Macungie, PA 18062

Telephone: Phone (610) 252-5800

E-mail address of person: Visit our website at [www.smooth-on.com](http://www.smooth-on.com) or email  
responsible for the SDS [sds@smooth-on.com](mailto:sds@smooth-on.com)

1.4 **Emergency Contact:** Chem-Tel Domestic: 800-255-3924 International: 813-248-0585

### National Poisons Information Center (NPIC) in Ireland

Tel: +353 1 8092566, email: [npicdublin@beaumont.ie](mailto:npicdublin@beaumont.ie), website: [www.poisons.ie](http://www.poisons.ie)

## Section 2 – Hazard(s) Identification

### 2.1 Classification of the substance or mixture:

#### Classification (REGULATION (EC) No 1272/2008) as amended

**H314** Skin Corrosion – Category 1B  
**H318** Serious Eye Damage - Category 1  
**H361fd** Toxic to reproduction – Category 2  
**H400** Acute Aquatic Toxicity – Category 1  
**H412** Chronic aquatic toxicity - Category 3

For the full text of the H-Statements mentioned in this Section, see Section 16

### 2.2 Label elements, including precautionary statements

#### Labelling (REGULATION (EC) No 1272/2008) as amended



Pictogram(s):

Signal word: Danger

#### Health Hazards

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.  
 H400 Very toxic to aquatic life  
 H412 Harmful to aquatic life with long lasting effects

**Precautionary Statements**

P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
 P264 Wash with soap and water thoroughly after handling.  
 P273 Avoid release to the environment.  
 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/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.  
 P310 Immediately call a POISON CENTER or doctor/physician.  
 P391 Collect spillage.

**Supplemental Hazard Statement**

None

**2.3 Other hazards**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**Section 3 - Composition / Information on Ingredients**

**3.1 Substances/Mixtures**

**Hazardous ingredients according to Regulation (EC) No 1272/2008**

Chemical name		Classification	Concentration
<b>4-Nonylphenol, branched</b>			
CAS-No.	84852-15-3	Acute Tox. 4; Skin Corr. 1B; Repr. 2; Aquatic Acute 1; Aquatic Chronic 1; H302, H314, H361fd, H400, H410M-Factor - Aquatic Acute: 10	25 – 35%
EC-No.	284-325-5		
INDEX-No.	601-053-00-8		
<b>Poly(propylene glycol) bis(2-aminopropyl ether)</b>			
CAS-No.	9046-10-0	Skin Corr. 1C; Aquatic Chronic 3; H314, H412	55 – 65%
<b>2-Piperazin-1-ylethylamine</b>			
CAS-No.	140-31-8	Acute Tox. 4; Acute Tox. 3; Skin Corr. 1B; Skin Sens. 1; Aquatic Chronic 3; H302, H311, H314, H317, H412	5 – 15%
EC-No.	205-411-0		
INDEX-No.	612-105-00-4		

For the full text of the H-Statements mentioned in this Section, see Section 16.

**Section 4 - First Aid Measures**

**4.1 Description of first aid measures**

**Inhalation**

Remove source(s) of contamination and move victim to fresh air. If breathing has stopped, give artificial respiration, then oxygen if needed. Contact physician immediately.

**Eye Contact**

Flush eyes with plenty of water. If irritation persists, seek medical attention.

**Skin Contact**

In case of skin contact, wash thoroughly with soap and water.

**Ingestion**

Do not induce vomiting unless instructed by a physician. Never give anything by mouth to an unconscious person.

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

None known.

**4.3 Indication of any immediate medical attention and specific treatment needed**

None known.

**Section 5 - Fire-Fighting Measures****5.1 Extinguishing Media**

Water Fog, Dry Chemical, and Carbon Dioxide Foam

**5.2 Special hazards arising from the substance or mixture**

During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Phenolics. Carbon monoxide. Carbon dioxide.

**5.3 Advice for firefighters**

Use water spray to cool fire-exposed surfaces and to protect personnel. Shut off "fuel" to fire. If a leak or spill has not ignited, use water spray to disperse the vapors. Either allow fire to burn under controlled conditions or extinguish with foam or dry chemical. Try to cover liquid spills with foam. Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full-face piece operated in pressure demand or positive-pressure mode.

**Section 6 - Accidental Release Measures****6.1 Personal precautions, protective equipment and emergency procedures**

Only properly protected personnel should remain in the spill area; dike and contain spill. Stop or reduce discharge if it can be done safely.

**6.2 Environmental precautions**

Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains or unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers. No special environmental precautions required.

**6.3 Methods and material for containment and cleaning up**

Put on appropriate protective gear including approved self-contained breathing apparatus, rubber boots and heavy rubber gloves. Dike and contain spill; absorb or scrape up excess into suitable container for disposal; wash area with dilute ammonia solution. Stop or reduce discharge if it can be done safely.

**6.4 Reference to other sections**

See Section 3 for list of Hazardous Ingredients; Sections 8 for Exposure Controls; and Section 13 for Disposal.

## Section 7 - Handling and Storage

### 7.1 Precautions for safe handling

Use good general housekeeping procedures. Wash hands after use. Do not get in eyes, on skin or on clothing. Do not breathe vapors or mists. Use good personal hygiene practices.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep container(s) tightly closed and properly labeled. Store in cool, dry, well ventilated place away from heat, direct sunlight, strong oxidizers and any incompatibles. Store in approved containers and protect against physical damage. Keep containers securely sealed when not in use. Indoor storage should meet local standards and appropriate fire codes. Containers that have been opened must be carefully resealed to prevent leakage. Empty containers retain residue and may be dangerous. Avoid water contamination.

### 7.3 Specific end use(s)

These precautions are for room temperature handling. Other uses including elevated temperatures or aerosol/spray applications may require added precautions.

## Section 8 - Exposure Controls / Personal Protection

### 8.1 Control parameters

Contains no substances with occupational exposure limit values.

### 8.2 Exposure controls

#### Engineering measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Personal protective equipment

##### Eye protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves must satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

##### Skin and body protection

Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

##### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government

standards such as NIOSH (US) or CEN (EU).

### Protective measures

Ensure that eye flushing systems and safety showers are located close to the working place.

## Section 9 - Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties:

<b>Appearance:</b>	Clear liquid	<b>Vapor pressure:</b>	No data
<b>Odor:</b>	Mild ammonia	<b>Vapor density (Air=1):</b>	>1
<b>Odor threshold:</b>	No data	<b>Relative density:</b>	1.16 g/cm <sup>3</sup> @ 20°C
<b>pH:</b>	No data	<b>Solubility in water:</b>	5.4 - 8.4 mg/l at 20 °C
<b>Melting / freezing point:</b>	No data	<b>Partition coefficient (n-octanol/water):</b>	log Pow'.3.242 Estimated
<b>Low / high boiling point:</b>	260°C	<b>Auto-ignition temperature:</b>	No data
<b>Flash Point:</b>	>150°C	<b>Decomposition temperature:</b>	No data
<b>Evaporation rate:</b>	No data	<b>Viscosity:</b>	200 centipoise
<b>Flammability (solid, gas):</b>	No data	<b>% Volatile:</b>	15.3%
<b>Upper/lower flammability or explosive limits:</b>	No data	<b>Specific Gravity (H<sub>2</sub>O=1, at 4 °C):</b>	0.95

## Section 10 - Stability and Reactivity

### 10.1 Reactivity

No hazardous reactions if stored and handled as prescribed/indicated., No corrosive effect on metal. Not fire propagating.

### 10.2 Chemical stability

These products are stable at room temperature in closed containers under normal storage and handling conditions.

### 10.3 Possibility of hazardous reactions

Hazardous polymerization cannot occur.

### 10.4 Conditions to avoid

Avoid short term exposures to temperatures above 300 °C

Potentially violent decomposition can occur above 350 °C

Avoid prolonged exposure to temperatures above 250 °C

Generation of gas during decomposition can cause pressure in closed systems. Pressure build-up can be rapid.

### 10.5 Incompatible materials

Strong bases and acids.

### 10.6 Hazardous decomposition products

Decomposition products depend upon temperature, air supply and the presence of other materials. Gases are released during decomposition. Uncontrolled exothermic reaction of epoxy resins release phenolics, carbon monoxide, and water.

**Section 11- Toxicological Information****11.1 Information on toxicological effects****Acute Toxicity****Acute oral toxicity**

LD50 Oral - Rat - male and female - 1,412 mg/kg

**Skin corrosion/irritation**

Skin - Rabbit

Result: Causes burns. - 4 h  
(OECD Test Guideline 404)**Serious eye damage/eye irritation**

Eyes - Rabbit

Result: Corrosive - 72 h  
(OECD Test Guideline 405)**Respiratory or skin sensitization**

Maximisation Test - Guinea pig

Result: Does not cause skin sensitization.  
(OECD Test Guideline 406)**Germ cell mutagenicity**

No data available

**Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**Reproductive toxicity**

Suspected human reproductive toxicant

Reproductive toxicity - Rat - Oral

Effects on Newborn: Growth statistics (e.g., reduced weight gain). Effects on Newborn: Physical.

**Specific target organ toxicity - single exposure**

No data available

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**Additional Information**

Repeated dose Toxicity      Rat - male and female - NOAEL: 10 mg/kg - LOAEL: 50 mg/kg - OECD Test Guideline 407

RTECS: Not available

Cough, Shortness of breath, Headache, Nausea, Vomiting, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## Section 12 - Ecological Information

### 12.1 Toxicity

Toxicity to fish	flow-through test LC50 - <i>Lepomis macrochirus</i> - 0.209 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates	semi-static test EC50 - <i>Daphnia magna</i> (Water flea) - 0.0844 mg/l - 48 h
Toxicity to algae	static test EC50 - <i>Selenastrum capricornutum</i> (green algae) - 0.33 mg/l - 72 h

### 12.2 Persistence and Degradability

Biodegradability	aerobic - Exposure time 28 d Result: 62 % - Readily biodegradable. (OECD Test Guideline 301F) Remarks: The 10 day time window criterion is not fulfilled.
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### 12.3 Bioaccumulative Potential

Bioaccumulation	<i>Pimephales promelas</i> (fathead minnow) - 28 d Bioconcentration factor (BCF): 740
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### 12.4 Mobility in Soil

No data available

### 12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### 12.6 Other Adverse Effects

No data available

## Section 13 - Disposal Considerations

### 13.1 Waste treatment methods

#### Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

#### Contaminated packaging

Dispose of as unused product.

## Section 14 - Transport Information

### 14.1 UN number

ADR/RID: - 1760

IMDG: - 1760

IATA: - 1760

### 14.2 UN proper shipping name

ADR/RID: Corrosive liquids, n.o.s. (polyoxypropylenediamine, nonyl phenol, aminoethylpiperzine mixture)

IMDG: Corrosive liquids, n.o.s. (polyoxypropylenediamine, nonyl phenol, aminoethylpiperzine mixture)

IATA: Corrosive liquids, n.o.s. (polyoxypropylenediamine, nonyl phenol, aminoethylpiperzine mixture)



- 14.3 Transport hazard class(es)**  
 ADR/RID: - 8                                 IMDG: - 8   IATA: - 8
- 14.4 Packing group**  
 ADR/RID: - III   IMDG: - III   IATA: - III
- 14.5 Environmental hazards**  
 ADR/RID: yes   IMDG Marine pollutant: yes   IATA: no
- 14.6 Special precautions for user**  
 No data available
- 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**  
 Not applicable

**Section 15 - Regulatory Information**

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

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**Authorizations and/or restrictions on use**

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals   : 4-Nonylphenol, branched

REACH - Candidate List of Substances of Very High Concern for Authorization (Article 59).   : 4-Nonylphenol, branched

**15.2 Chemical safety assessment**

No chemical safety assessment has been carried out for this substance/mixture by the supplier.

**16 - Other Information**

**Full text of H-Statements referred to under Sections 2 and 3.**

- H314           Causes severe skin burns and eye damage.
- H318           Causes serious eye damage.
- H361fd        Suspected of damaging fertility. Suspected of damaging the unborn child.
- H400           Very toxic to aquatic life
- H412           Harmful 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

**Disclaimer**

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