

STOT, single exposure, category 3, RTI
 Skin Corrosion, category 1
 Skin Sensitizer, category 1

H335
 H314-1
 H317

2.2 Label elements

Symbol(s) of Product



Signal Word

Danger

Named Chemicals on Label

4,4'-isopropylidenediphenol, diethylenetriamine, N-(3-(trimethoxysilyl)propyl)ethylenediamine, 4,4' - isopropylidenediphenol oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with diethylenetriamine

HAZARD STATEMENTS

Acute Toxicity, Inhalation, category 1	H330-1	Fatal if inhaled.
Acute Toxicity, Oral, category 4	H302	Harmful if swallowed.
Acute Toxicity, Dermal, category 4	H312	Harmful in contact with skin.
Hazardous to the aquatic environment, Chronic, category 2	H411	Toxic to aquatic life with long lasting effects.
Reproductive Toxicity, category 2	H361	Suspected of damaging fertility or the unborn child.
STOT, single exposure, category 3, RTI	H335	May cause respiratory irritation.
Skin Corrosion, category 1	H314-1	Causes severe skin burns and eye damage.
Skin Sensitizer, category 1	H317	May cause an allergic skin reaction.

PRECAUTION PHRASES

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	Wear respiratory protection.
P301+310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P302	IF ON SKIN:
P302+352	IF ON SKIN: Wash with plenty of soap and water.
P303+361+353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P333+313	If skin irritation or rash occurs: Get medical advice/attention.
P352	Wash with plenty of soap and water.
P391	Collect spillage.
P403+233	Store in a well-ventilated place. Keep container tightly closed.

2.3 Other hazards

Not applicable

Results of PBT and vPvB assessment

The product does not meet the criteria for PBT/vPvB in accordance with Annex XIII.

3. Composition/Information On Ingredients**3.2 Mixtures****Hazardous Ingredients**

<u>CAS-No.</u>	<u>EINEC No.</u>	<u>Name According to EEC</u>	<u>%</u>
111-40-0	203-865-4	diethylenetriamine	25-50
80-05-7	201-245-8	4,4'-isopropylidenediphenol	25-50
31326-29-1	500-072-8	4,4' - isopropylidenediphenol oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with diethylenetriamine	10-25
1760-24-3		N-(3-(trimethoxysilyl)propyl)ethylenediamine	1.0-2.5

<u>CAS-No.</u>	<u>REACH Reg No.</u>	<u>CLP Symbols</u>	<u>CLP Hazard Statements</u>	<u>M-Factors</u>
111-40-0		GHS05-GHS06	H302-312-314-317-330-335	
80-05-7	01-2119457856-23-0043	GHS05-GHS07-GHS08-GHS09	H317-318-335-361-411	
31326-29-1		GHS07	H302-312	
1760-24-3		GHS05-GHS07	H317-318-332-412	

Additional Information: The text for CLP Hazard Statements shown above (if any) is given in Section 16.

4. First-aid Measures**4.1 Description of First Aid Measures**

GENERAL NOTES: When symptoms persist or in all cases of doubt seek medical advice.

AFTER INHALATION: Move to fresh air. Consult a physician after significant exposure.

AFTER SKIN CONTACT: Use a mild soap if available. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

AFTER EYE CONTACT: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses.

AFTER INGESTION: Gently wipe or rinse the inside of the mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.

Self protection of the first aider:

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Causes severe burns. Harmful in contact with skin and if swallowed. Irritating to eyes and respiratory system. May cause long-term adverse effects in the aquatic environment

4.3 Indication of any immediate medical attention and special treatment needed

No information available on clinical testing and medical monitoring. Specific toxicological information on substances, if available, can be found in section 11.

5. Fire-fighting Measures**5.1 Extinguishing Media:**

Carbon Dioxide, Dry Chemical, Foam

FOR SAFETY REASONS NOT TO BE USED: Alcohol, Alcohol based solutions, any other media not listed above.

5.2 Special hazards arising from the substance or mixture

No Information

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. High volume water jet. Hazardous decomposition products formed under fire conditions. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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

Ensure adequate ventilation. Use personal protective equipment

6.2 Environmental precautions

Do not allow material to contaminate ground water system. Prevent product from entering drains.

6.3 Methods and material for containment and cleaning up

Prevent further leakage or spillage if safe to do so. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local /national regulations (see section 13).

6.4 Reference to other sections

FURTHER INSTRUCTIONS: Please refer to EU disposal requirements or country specific disposal requirements for this material. See Section 13 for further information.

7. Handling and Storage**7.1 Precautions for safe handling**

Use only in area provided with appropriate exhaust ventilation. Wear personal protective equipment. Do not breathe vapours or spray mist. Wash hands before breaks and at the end of workday. When using, do not eat, drink or smoke.

7.2 Conditions for safe storage, including any incompatibilities

CONDITIONS TO AVOID: Direct sources of heat

STORAGE CONDITIONS: Store in original container. Keep locked up or in an area accessible only to qualified or authorised persons. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight

7.3 Specific end use(s)

No specific advice for end use available.

8. Exposure Controls/Personal Protection**8.1 Control parameters****Ingredients with Occupational Exposure Limits (IR)**

<u>Name</u>	<u>%</u>	<u>LTCL ppm</u>	<u>STEL ppm</u>	<u>STEL mg/m3</u>	<u>LTCL mg/m3</u>	<u>OEL Note</u>
diethylenetriamine	25-50	1			4	Can be absorbed through the skin.
4,4'-isopropylidenediphenol	25-50				10	
4,4' - isopropylidenediphenol oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with diethylenetriamine	10-25					
N-(3-(trimethoxysilyl)propyl)ethylenediamine	1.0-2.5					

FURTHER ADVICE: Refer to the regulatory exposure limits for the workforce enforced in each country. Some components may not have been classified at the EU level under the dangerous substances and preparations regulation.

8.2 Exposure controls**Personal Protection**

RESPIRATORY PROTECTION: No personal respiratory protective equipment normally required. Respirator with filter for

organic vapor.

EYE PROTECTION: Safety glasses.

HAND PROTECTION: Rubber or plastic gloves. Long sleeved clothing. Remove and wash contaminated clothing before re-use. Rubber or plastic apron.

OTHER PROTECTIVE EQUIPMENT: No Information

ENGINEERING CONTROLS: Avoid contact with skin, eyes and clothing. Ensure adequate ventilation, especially in confined areas.

Chemical Name:

diethylenetriamine

EC No.:

203-865-4

CAS-No.:

111-40-0

DNELs - Derived no effect level

Route of Exposure	Workers				Consumers			
	Acute effect local	Acute effects systemic	Chronic effects local	Chronic effects systemic	Acute effect local	Acute effects systemic	Chronic effects local	Chronic effects systemic
Oral	Not required							
Inhalation	2.6 mg/m ³	92.1 mg/m ³	1.1 mg/cm ²	15.4 mg/m ³		27.5 mg/m ³		4.6 mg/m ³
Dermal				11.4 mg/kg bw/day		4.88 mg/kg bw/day		4.88 mg/kg bw/day

PNEC's - Predicted no effect concentration

Environmental protection target	PNEC
Fresh water	0.56 mg/l
Fresh water sediments	1072 mg/kg dwt
Marine water	0.056 mg/l
Marine sediments	107.2 mg/kg dwt
Food chain	
Microorganisms in sewage treatment soil (agricultural)	6 mg/l
Air	214 mg/kg dwt

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance:	CLEAR /AMBER COLORED
Physical State	Liquid
Odor	AMMONICAL
Odor threshold	Not determined
pH	ALKALINE
Melting point /freezing point (°C)	Not determined
Boiling point/range (°C)	64 - N.D.
Flash Point, (°C)	94
Evaporation rate	Not determined
Flammability (solid, gas)	Not determined
Upper/lower flammability or explosive limits	N/A - N/A
Vapour Pressure	NOT DETERMINED
Vapour density	NOT DETERMINED
Relative density	Not determined

Solubility in /Miscibility with water	LESS THAN 1% @ 20C
Partition coefficient: n-octanol/water	Not determined
Auto-ignition temperature (°C)	Not determined
Decomposition temperature (°C)	Not determined
Viscosity	130 cps
Explosive properties	Not determined
Oxidising properties	Not determined

9.2 Other information

VOC Content g/l:	0
Grams of VOC per liter of coating product as applied (mixture of Part A and Part B) per ASTM D2369 Method E.	
Specific Gravity (g/cm³)	1.030

10. Stability and Reactivity

10.1 Reactivity

No reactivity hazards known under normal storage and use conditions.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous polymerisation may occur.

10.4 Conditions to avoid

Direct sources of heat

10.5 Incompatible materials

Strong oxidizing agents.

10.6 Hazardous decomposition products

Carbon dioxide (CO₂), carbon monoxide (CO), oxides of nitrogen (NO_x), dense black smoke.

11. Toxicological Information

11.1 Information on toxicological effects

Acute Toxicity:

Oral LD50:

Inhalation LC50:

Irritation: No information available.

Corrosivity: No information available.

Sensitization: No information available.

Repeated dose toxicity: No information available.

Carcinogenicity: No information available.

Mutagenicity: No information available.

Toxicity for reproduction: No information available.

STOT-single exposure: No information available.

STOT-repeated exposure: No information available.

Aspiration hazard: No information available.

If no information is available above under Acute Toxicity then the acute effects of this product have not been tested. Data on individual components are tabulated below.

<u>CAS-No.</u>	<u>Name According to EEC</u>	<u>Oral LD50</u>	<u>Dermal LD50</u>	<u>Vapor LC50</u>
111-40-0	diethylenetriamine	1080 mg/kg, oral, rat	1090 mg/kg	10 mg/L /1 hour, inh, rat
80-05-7	4,4'-isopropylidenediphenol	5000 mg/kg, oral, rat	3000 mg/kg, oral, rabbit	
31326-29-1	4,4' - isopropylidenediphenol oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with diethylenetriamine	540 mg/kg, oral (rat)	1494 mg/kg, rabbit	

Additional Information:

No Information

12 Ecological Information

12.1 Toxicity:

EC50 48hr (Daphnia):	No information
IC50 72hr (Algae):	No information
LC50 96hr (fish):	No information

12.2 Persistence and degradability: No information

12.3 Bioaccumulative potential: No information

12.4 Mobility in soil: No information

12.5 Results of PBT and vPvB assessment: The product does not meet the criteria for PBT/vPvB in accordance with Annex XIII.

12.6 Other adverse effects: No information

<u>CAS-No.</u>	<u>Name According to EEC</u>	<u>EC50 48hr</u>	<u>IC50 72hr</u>	<u>LC50 96hr</u>
111-40-0	diethylenetriamine	780 mg/l	No information	430 mg/l
80-05-7	4,4'-isopropylidenediphenol	10.2 mg/l	No information	205 mg/l
31326-29-1	4,4' - isopropylidenediphenol oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with diethylenetriamine	No information	No information	
1760-24-3	N-(3-(trimethoxysilyl)propyl)ethylenediamine	No information	No information	

Further Ecological Information

Contains the following ingredients which are classified as water dangerous according to EEC directive No. 76/464/EEC in percentages > 1%.

<u>CAS-No.</u>	<u>Name According to EEC</u>
80-05-7	4,4'-isopropylidenediphenol

13. Disposal Considerations

13.1 WASTE TREATMENT METHODS: If recycling is not practicable, dispose of in compliance with local regulations. Empty containers should be taken to an approved waste handling site for recycling or disposal.

European Waste Code: 080111
Packaging Waste Code: 150110

14. Transport Information

14.1	UN number	UN2735
14.2	UN proper shipping name	POLYAMINES, LIQUID, CORROSIVE, n.o.s.
	Technical name	(CONTAINS DIETHYLENETRIAMINE, CYCLOALIPHATIC AMINE)
14.3	Transport hazard class(es)	8
	Subsidiary shipping hazard	
14.4	Packing group	III
14.5	Environmental hazards	
14.6	Special precautions for user	Not applicable
	EmS-No.:	F-A,S-B
14.7	Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code	Not applicable

15. Regulatory Information

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

National Regulations:

Denmark Product Registration Number:

Danish MAL Code:

Sweden Product Registration Number:

Norway Product Registration Number:

WGK Class:

Chemical Safety Assessment

15.2 No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

16. Other Information

Text for CLP Hazard Statements shown in Section 3 describing each ingredient:

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H361	Suspected of damaging fertility or the unborn child.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Reasons for revision

This Safety Data Sheet (SDS) has been revised to meet updated national hazard communication standards which have adopted the provisions of the UN GHS system. There have been both formatting and content changes based on the GHS classification (if applicable), Please review each section of the SDS for specific changes. This Safety Data Sheet (SDS) has been revised to meet the new EU CLP requirements. There have been both formatting and content changes based on the CLP classification (if applicable), please review each section of the SDS for specific changes.

List of References:

This Safety Data Sheet was compiled with data and information from the following sources:

The Ariel Regulatory Database provided by the 3E Corporation in Copenhagen, Denmark
 ESIS (The European Chemical Substances Information System), provided by the European Commission
 Joint Research Centre in Ispra, Italy
 Annex VI of the EU Council Directive 67/548/EEC
 Council Directive 67/548/EEC - Annex I or EU Council Directive 1999/45/EC
 European Union (EC) Regulation No. 1272/2008 on the classification, labelling and packaging of substances and mixtures (CLP Regulation)
 EU Council Decision 2000/532/EC and its Annex entitled "List of Wastes"

Acronym & Abbreviation Key:

CLP	Classification, Labeling & Packaging Regulation
EC	European Commission
EU	European Union
US	United States
CAS	Chemical Abstract Service
EINECS	European Inventory of Existing Chemical Substances
REACH	Registration, Evaluation, Authorization of Chemicals Regulation
GHS	Globally Harmonized System of Classification and Labeling of Chemicals
LTEL	Long term exposure limit
STEL	Short term exposure limit
OEL	Occupational exposure limit
ppm	Parts per million
mg/m3	Milligrams per cubic meter
TLV	Threshold Limit Value
ACGIH	American Conference of Governmental Industrial Hygienists
OSHA	Occupational Safety & Health Administration
PEL	Permissible Exposure Limits
VOC	Volatile organic compounds
g/l	Grams per liter
mg/kg	Milligrams per kilogram
N/A	Not applicable
LD50	Lethal dose at 50%
LC50	Lethal concentration at 50%
EC50	Half maximal effective concentration
IC50	Half maximal inhibitory concentration
PBT	Persistent bioaccumulative toxic chemical
vPvB	Very persistent and very bioaccumulative
EEC	European Economic Community
ADR	International Transport of Dangerous Goods by Road
RID	International Transport of Dangerous Goods by Rail
UN	United Nations
IMDG	International Maritime Dangerous Goods Code
IATA	International Air Transport Association
MARPOL	International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978
IBC	International Bulk Container

For further information, please contact: Technical Services Department

The information on this sheet corresponds to our present knowledge. It is not a specification and it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage, and use of the product. It is not applicable to unusual or non-standard uses of the product or where instructions and recommendations are not followed.

