RENPASTE® 1257-3 US

Version	Revision Date:	SDS Number:	Date of last issue: 10/28/2015
1.2	10/30/2015	400001012646	Date of first issue: 10/27/2015

SECTION 1. IDENTIFICATION

Product name : RENPASTE® 1257-3 US

Manufacturer or supplier's details

Company name of supplier : Huntsman Advanced Materials Americas LLC
Address : P.O. Box 4980
The Woodlands,
TX 77387
United States of America
Telephone : Non-Emergency: (800) 257-5547

E-mail address of person responsible for the SDS : MSDS@huntsman.com

Emergency telephone : Chemtrec: (800) 424-9300 or (703) 527-3887

Recommended use of the chemical and restrictions on use

Recommended use : Epoxy constituents

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids : Category 4

Skin irritation : Category 2

Eye irritation : Category 2A

Skin sensitization : Category 1

Germ cell mutagenicity : Category 2

Carcinogenicity : Category 2

Acute aquatic toxicity : Category 2

Chronic aquatic toxicity : Category 2

GHS Label element

Hazard pictograms :

Signal Word : Warning

Hazard Statements : H227 Combustible liquid.
H315 Causes skin irritation.

H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H341 Suspected of causing genetic defects.
H351 Suspected of causing cancer.
H411 Toxic to aquatic life with long lasting effects.

Precautionary Statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P272 Contaminated work clothing must not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
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.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P391 Collect spillage.
Storage:
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous ingredients

Chemical Name	CAS-No.	Concentration (%)
BISPHENOL A EPOXY RESIN	25068-38-6	30 - 60
butyl 2,3-epoxypropyl ether	2426-08-6	3 - 7

SECTION 4. FIRST AID MEASURES

General advice	:	No hazards which require special first aid measures.
If inhaled	:	Move to fresh air in case of accidental inhalation of dust or fumes from overheating or combustion. If symptoms persist, call a physician.
In case of skin contact	:	Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water.
In case of eye contact	:	Flush eyes with water as a precaution. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing.
If swallowed	:	Clean mouth with water and drink afterwards plenty of water. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	:	None known.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	:	No data is available on the product itself.
Specific extinguishing methods	:	No data is available on the product itself.
Further information	:	Standard procedure for chemical fires.
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Not applicable for product as supplied.
Environmental precautions	:	No special environmental precautions required.
Methods and materials for containment and cleaning up	:	Wipe up with absorbent material (e.g. cloth, fleece). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	For personal protection see section 8. No special handling advice required.
Conditions for safe storage	:	Keep container tightly closed in a dry and well-ventilated place.
Materials to avoid	:	No special restrictions on storage with other products.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Ingredients	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
butyl 2,3-epoxypropyl ether	2426-08-6	TWA	3 ppm	ACGIH
		C	5.6 ppm 30 mg/m3	NIOSH REL
		TWA	50 ppm 270 mg/m3	OSHA Z-1
		TWA	25 ppm 135 mg/m3	OSHA PEL

Personal protective equipment

Respiratory protection	:	No personal respiratory protective equipment normally required.
Hand protection Remarks	:	For prolonged or repeated contact use protective gloves.
Eye protection	:	Safety glasses
Skin and body protection	:	Protective suit
Hygiene measures	:	General industrial hygiene practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	paste
Color	:	white
Odor	:	slight, ether-like
Odor Threshold	:	No data is available on the product itself.
pH	:	No data is available on the product itself.
Flash point	:	80 °C

Method: Pensky-Martens closed cup, closed cup

Evaporation rate	:	No data is available on the product itself.
Flammability (solid, gas)	:	No data is available on the product itself.
Upper explosion limit	:	No data is available on the product itself.
Lower explosion limit	:	No data is available on the product itself.
Vapor pressure	:	1.62626 hPa (25 °C)
Relative vapor density	:	No data is available on the product itself.
Relative density	:	1.5
Density	:	No data is available on the product itself.
Solubility(ies)		
Water solubility	:	insoluble
Solubility in other solvents	:	No data is available on the product itself.
Partition coefficient: n-octanol/water	:	No data is available on the product itself.
Autoignition temperature	:	No data is available on the product itself.
Thermal decomposition	:	No data is available on the product itself.
Viscosity	:	No data is available on the product itself.
Self-Accelerating decomposition temperature (SADT)	:	No data is available on the product itself.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Stable under recommended storage conditions.
Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	No hazards to be specially mentioned.
Conditions to avoid	:	No data available

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	No data is available on the product itself.

Acute toxicity

Acute oral toxicity - Product	:	Acute toxicity estimate : > 5,000 mg/kg Method: Calculation method

Acute inhalation toxicity - Product	:	Acute toxicity estimate: > 10 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method
Acute dermal toxicity - Product	:	Acute toxicity estimate : > 5,000 mg/kg Method: Calculation method
Acute toxicity (other routes of administration)	:	No data available

Skin corrosion/irritation

Ingredients:

BISPHENOL A EPOXY RESIN:
Species: Rabbit
Assessment: Mild skin irritant
Method: OECD Test Guideline 404
Result: Irritating to skin.

butyl 2,3-epoxypropyl ether:
Species: Rabbit
Result: No skin irritation

Serious eye damage/eye irritation

Ingredients:

BISPHENOL A EPOXY RESIN:
Species: Rabbit
Result: Irritating to eyes.
Assessment: Mild eye irritant
Method: OECD Test Guideline 405

butyl 2,3-epoxypropyl ether:
Species: Rabbit
Result: Severe eye irritation
Assessment: Severe eye irritation

Respiratory or skin sensitization

Ingredients:

BISPHENOL A EPOXY RESIN:
Routes of exposure: Skin
Species: Mouse
Assessment: May cause sensitization by skin contact.
Method: OECD Test Guideline 429
Result: Causes sensitization.

butyl 2,3-epoxypropyl ether:
Result: May cause sensitization by skin contact.

Assessment: No data available

Germ cell mutagenicity

Ingredients:

BISPHENOL A EPOXY RESIN:

Genotoxicity in vitro : Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: positive

Concentration: 0 - 5000 ug/plate
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: positive

Ingredients:

BISPHENOL A EPOXY RESIN:

Genotoxicity in vivo : Cell type: Germ
Application Route: Oral
Method: OECD Test Guideline 478
Result: negative

Cell type: Somatic
Application Route: Oral
Dose: 0 - 5000 mg/kg
Method: OPPTS 870.5395
Result: negative

Ingredients:

BISPHENOL A EPOXY RESIN:

Germ cell mutagenicity-Assessment : Weight of evidence does not support classification as a germ cell mutagen.

butyl 2,3-epoxypropyl ether:

Germ cell mutagenicity-Assessment : In vitro tests showed mutagenic effects

Germ cell mutagenicity-Assessment : No data available

Carcinogenicity

Ingredients:

BISPHENOL A EPOXY RESIN:
Species: Rat, (male and female)
Application Route: Oral
Exposure time: 24 month(s)
Dose: 15 mg/kg
Frequency of Treatment: 7 days/week
Method: OECD Test Guideline 453
Result: negative

Species: Mouse, (male)
Application Route: Dermal
Exposure time: 24 month(s)
Dose: 0.1 mg/kg

Frequency of Treatment: 3 days/week
Method: OECD Test Guideline 453
Result: negative

Species: Rat, (female)
Application Route: Dermal
Exposure time: 24 month(s)
Dose: 1 mg/kg
Frequency of Treatment: 5 days/week
Method: OECD Test Guideline 453
Result: negative

Ingredients:

butyl 2,3-epoxypropyl ether:
Carcinogenicity - Assessment : Suspected human carcinogens

Reproductive toxicity

Ingredients:

BISPHENOL A EPOXY RESIN:
Effects on fertility : Test Type: Two-generation study
Species: Rat, male and female
Application Route: Oral
Dose: >750 milligram per kilogram
General Toxicity Parent: No-observed-effect level: 540 mg/kg body weight
General Toxicity F1: No-observed-effect level: 540 mg/kg body weight
Symptoms: No adverse effects.
Method: OECD Test Guideline 416
Result: No effects on fertility and early embryonic development were detected.

Ingredients:

BISPHENOL A EPOXY RESIN:
Effects on fetal development : Species: Rabbit, female
Application Route: Dermal
General Toxicity Maternal: NOAEL (No observed adverse effect level): 30 mg/kg body weight
Method: Other guidelines
Result: No teratogenic effects.

Species: Rabbit, female
Application Route: Oral
General Toxicity Maternal: NOAEL (No observed adverse effect level): 60 mg/kg body weight
Method: OECD Test Guideline 414
Result: No teratogenic effects.

Species: Rat, female
Application Route: Oral
General Toxicity Maternal: NOAEL (No observed adverse effect level): 180 mg/kg body weight
Method: OECD Test Guideline 414

Result: No teratogenic effects.

Reproductive toxicity - Assessment : No data available

STOT-single exposure

Ingredients:

butyl 2,3-epoxypropyl ether**:**
Routes of exposure: Inhalation
Target Organs: Respiratory Tract
Assessment: May cause respiratory irritation.

STOT-repeated exposure

No data available

Repeated dose toxicity

Ingredients:

BISPHENOL A EPOXY RESIN**:**
Species: Rat, male and female
NOAEL (No observed adverse effect level): 50 mg/kg
Application Route: Ingestion
Exposure time: 14 Weeks
Number of exposures: 7 d
Method: Subchronic toxicity

Species: Rat, male and female
No-observed-effect level: 10 mg/kg
Application Route: Skin contact
Exposure time: 13 Weeks
Number of exposures: 5 d
Method: Subchronic toxicity

Species: Mouse, male
NOAEL (No observed adverse effect level): 100 mg/kg
Application Route: Skin contact
Exposure time: 13 Weeks
Number of exposures: 3 d
Method: Subchronic toxicity

Repeated dose toxicity - Assessment : No data available

Aspiration toxicity

No data available

Experience with human exposure

General Information: No data available

Inhalation: No data available

Skin contact: No data available

Eye contact: No data available

Ingestion: No data available

Toxicology, Metabolism, Distribution

No data available

Neurological effects

No data available

Further information

Product:

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Ingredients:

BISPHENOL A EPOXY RESIN:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 1.5 mg/l
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 203

Ingredients:

BISPHENOL A EPOXY RESIN:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 2.7 mg/l
Exposure time: 48 h
Test Type: static test
Test substance: Fresh water

Ingredients:

BISPHENOL A EPOXY RESIN:

Toxicity to algae : EC50 (Selenastrum capricornutum (green algae)): 9.4 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: EPA-660/3-75-009

M-Factor (Acute aquatic toxicity) : No data available

Toxicity to fish (Chronic toxicity) : No data available

Ingredients:

BISPHENOL A EPOXY RESIN:

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.3 mg/l
Exposure time: 21 d
Test Type: semi-static test
Test substance: Fresh water
Method: OECD Test Guideline 211

M-Factor (Chronic aquatic toxicity) : No data available

Ingredients:

BISPHENOL A EPOXY RESIN:

Toxicity to bacteria : IC50 (activated sludge): > 100 mg/l
Exposure time: 3 h
Test Type: static test
Test substance: Fresh water

Toxicity to soil dwelling organisms : No data available

Plant toxicity : No data available

Sediment toxicity : No data available

Toxicity to terrestrial organisms : No data available

Ecotoxicology Assessment

Acute aquatic toxicity : No data available

Ingredients:

butyl 2,3-epoxypropyl ether:

Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.

Toxicity Data on Soil : No data available

Other organisms relevant to the environment : No data available

Further information:
No data available

Persistence and degradability

Ingredients:

BISPHENOL A EPOXY RESIN:

Biodegradability : Inoculum: Sewage (STP effluent)
Concentration: 20 mg/l
Result: Not readily biodegradable.

Biodegradation: 5 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

Biochemical Oxygen Demand (BOD)	:	No data available
Chemical Oxygen Demand (COD)	:	No data available
BOD/COD	:	No data available
ThOD	:	No data available
BOD/ThOD	:	No data available
Dissolved organic carbon (DOC)	:	No data available
Physico-chemical removability	:	No data available
Stability in water	:	No data available
Photodegradation	:	No data available
Impact on Sewage Treatment	:	No data available

Bioaccumulative potential

Ingredients:

BISPHENOL A EPOXY RESIN:

Bioaccumulation	:	Bioconcentration factor (BCF): 31 Remarks: Does not bioaccumulate.

Ingredients:

BISPHENOL A EPOXY RESIN:

Partition coefficient: n-octanol/water	:	log Pow: 3.242 (25 °C) pH: 7.1 Method: OECD Test Guideline 117

Mobility in soil

Mobility	:	No data available

Ingredients:

BISPHENOL A EPOXY RESIN:

Distribution among environmental compartments	:	Koc: 445.
Stability in soil	:	No data available

Other adverse effects

Environmental fate and pathways	:	No data available
Results of PBT and vPvB assessment	:	No data available
Endocrine disrupting potential	:	No data available
Adsorbed organic bound halogens (AOX)	:	No data available

Hazardous to the ozone layer

Ozone-Depletion Potential	Not applicable

Additional ecological information - Product	:	There is no data available for this product.
Global warming potential (GWP)	:	No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	Offer surplus and non-recyclable solutions to a licensed disposal company.
Contaminated packaging	:	Empty remaining contents. Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14. TRANSPORT INFORMATION

International Regulation

IATA

UN/ID No.	:	UN 3082
Proper shipping name	:	Environmentally hazardous substance, liquid, n.o.s. (BISPHENOL A EPOXY RESIN, BUTYL GLYCIDYL ETHER)
Class	:	9
Packing group	:	III
Labels	:	Miscellaneous
Packing instruction (cargo aircraft)	:	964
Packing instruction (passenger aircraft)	:	964

IMDG

UN number	:	UN 3082

Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BISPHENOL A EPOXY RESIN, BUTYL GLYCIDYL ETHER)
Class	:	9
Packing group	:	III
Labels	:	9
EmS Code	:	F-A, S-F
Marine pollutant	:	yes

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

Not applicable for product as supplied.

Domestic regulation

DOT Classification

UN/ID/NA number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BISPHENOL A EPOXY RESIN, BUTYL GLYCIDYL ETHER)
Class	:	9
Packing group	:	III
Labels	:	CLASS 9
ERG Code	:	171
Marine pollutant	:	yes(BISPHENOL A EPOXY RESIN, BUTYL GLYCIDYL ETHER)
Remarks	:	Above applies only to containers over 119 gallons or 450 liters. Not regulated if shipped in packages less than or equal to 119 gallons (450 liters).

SECTION 15. REGULATORY INFORMATION

TSCA - 5(a) Significant New Use Rule List of Chemicals	:	Not relevant
California Prop 65		This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

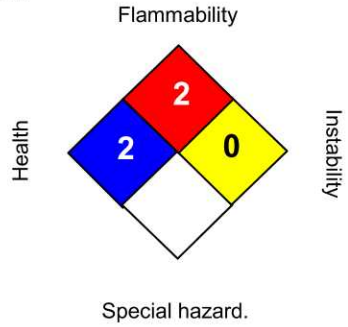
The ingredients of this product are reported in the following inventories:

CH INV	:	On the inventory, or in compliance with the inventory
TSCA	:	On TSCA Inventory
DSL	:	All components of this product are on the Canadian DSL.
AICS	:	On the inventory, or in compliance with the inventory
NZIoC	:	Not in compliance with the inventory
ENCS	:	Not in compliance with the inventory
ISHL	:	Not in compliance with the inventory
KECI	:	On the inventory, or in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS III:

HEALTH	2*
FLAMMABILITY	2
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,

2 = Moderate, 3 = High

4 = Extreme, * = Chronic

Revision Date : 10/30/2015

While the information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE. THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

NO PERSON OR ORGANIZATION EXCEPT A DULY AUTHORIZED HUNTSMAN EMPLOYEE IS AUTHORIZED TO PROVIDE OR MAKE AVAILABLE DATA SHEETS FOR HUNTSMAN PRODUCTS. DATA SHEETS FROM UNAUTHORIZED SOURCES MAY CONTAIN INFORMATION THAT IS NO LONGER CURRENT OR ACCURATE. NO PART OF THIS DATA SHEET MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM, OR BY ANY MEANS, WITHOUT PERMISSION IN WRITING FROM HUNTSMAN. ALL REQUESTS FOR PERMISSION TO REPRODUCE MATERIAL FROM THIS DATA SHEET SHOULD BE DIRECTED TO HUNTSMAN, MANAGER, PRODUCT SAFETY AT THE ABOVE ADDRESS.

REN® 1257-3 US

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	07/01/2016	400001012647	Date of first issue: 07/01/2016

SECTION 1. IDENTIFICATION

Product name : REN® 1257-3 US

Manufacturer or supplier's details

Company name of supplier : Huntsman Advanced Materials Americas LLC
Address : P.O. Box 4980
The Woodlands,
TX 77387
United States of America
Telephone : Non-Emergency: (800) 257-5547

E-mail address of person responsible for the SDS : MSDS@huntsman.com

Emergency telephone number : Chemtrec: (800) 424-9300 or (703) 527-3887

Recommended use of the chemical and restrictions on use

Recommended use : Hardener

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Inhalation) : Category 4

Skin corrosion : Category 1B

Serious eye damage : Category 1

Skin sensitisation : Category 1

Reproductive toxicity : Category 2

Acute aquatic toxicity : Category 1

Chronic aquatic toxicity : Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H332 Harmful if inhaled.
H361 Suspected of damaging fertility or the unborn child.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.
P391 Collect spillage.
Storage:
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
4,4'-isopropylidenediphenol	80-05-7	>= 3 - <= 7
Diethylenetriamine	111-40-0	>= 3 - <= 7
Phenol, 4-nonyl-, branched	84852-15-3	>= 7 - <= 13
triethylenetetramine	112-24-3	>= 0.1 - <= 1
Triethylenetetramine, propoxylated	26950-63-0	>= 0.1 - <= 1
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines	68410-23-1	>= 7 - <= 13

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4. FIRST AID MEASURES

General advice	:	Move out of dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance. Symptoms of poisoning may appear several hours later. Do not leave the victim unattended.
If inhaled	:	Call a physician or poison control centre immediately. If unconscious place in recovery position and seek medical advice.
In case of skin contact	:	Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty. If on skin, rinse well with water. If on clothes, remove clothes.
In case of eye contact	:	Small amounts splashed into eyes can cause irreversible tissue damage and blindness. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Continue rinsing eyes during transport to hospital. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	:	Keep respiratory tract clear. Do NOT induce vomiting. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.
Most important symptoms and effects, both acute and delayed	:	None known.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	No data is available on the product itself.
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during firefighting	:	Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products	:	No data is available on the product itself.
Specific extinguishing methods	:	No data is available on the product itself.
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Ensure adequate ventilation. Evacuate personnel to safe areas.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	Avoid formation of aerosol. Do not breathe vapours/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Provide sufficient air exchange and/or exhaust in work rooms. To avoid spills during handling keep bottle on a metal tray. Dispose of rinse water in accordance with local and national regulations. Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
Conditions for safe storage	:	Prevent unauthorized access. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Observe label precautions.
Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
limestone	1317-65-3	TWA (total dust)	15 mg/m3	OSHA Z-1
		TWA (respirable fraction)	5 mg/m3	OSHA Z-1
		TWA (Total dust)	15 mg/m3	OSHA P0
		TWA (respirable dust fraction)	5 mg/m3	OSHA P0
		TWA (Respirable)	5 mg/m3 (Calcium carbonate)	NIOSH REL
		TWA (total)	10 mg/m3 (Calcium carbonate)	NIOSH REL
aluminium hydroxide	21645-51-2	TWA (Respirable fraction)	1 mg/m3 (Aluminium)	ACGIH
		TWA (Respirable fraction)	1 mg/m3 (Aluminium)	ACGIH
Diethylenetriamine	111-40-0	TWA	1 ppm	ACGIH
		TWA	1 ppm 4 mg/m3	OSHA P0
Silicon, amorphous	112945-52-5	TWA (Dust)	20 Million particles per cubic foot (Silica)	OSHA Z-3
		TWA (Dust)	80 mg/m3 / %SiO2 (Silica)	OSHA Z-3
quartz (SiO2)	14808-60-7	TWA (total dust)	30 mg/m3 / %SiO2+2	OSHA Z-3
		TWA (respirable)	10 mg/m3 / %SiO2+2	OSHA Z-3
		TWA (respirable)	250 mppcf / %SiO2+5	OSHA Z-3
		TWA (respirable dust fraction)	0.1 mg/m3	OSHA P0
		TWA	0.025 mg/m3	ACGIH

		(Respirable fraction)	(Silica)	
		TWA (Respirable fraction)	0.025 mg/m3 (Silica)	ACGIH

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required.

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.

Hand protection
Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : Avoid contact with skin, eyes and clothing.
When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and immediately after handling the product.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : paste

Colour : blue

Odour : ammoniacal

Odour Threshold : No data is available on the product itself.

pH : No data is available on the product itself.

Flash point : > 98 °CMethod: estimated, closed cup

Evaporation rate : No data is available on the product itself.

Flammability (solid, gas) : No data is available on the product itself.

Flammability (liquids) : No data is available on the product itself.

Upper explosion limit : No data is available on the product itself.

Lower explosion limit : No data is available on the product itself.

Vapour pressure	:	1.49296 hPa (52 °C)
Relative vapour density	:	No data is available on the product itself.
Relative density	:	No data is available on the product itself.
Density	:	1.64 - 1.74 g/cm3
Solubility(ies)		
Water solubility	:	slightly soluble
Solubility in other solvents	:	No data is available on the product itself.
Partition coefficient: n-octanol/water	:	No data is available on the product itself.
Auto-ignition temperature	:	No data is available on the product itself.
Thermal decomposition	:	No data is available on the product itself.
Self-Accelerating decomposition temperature (SADT)	:	No data is available on the product itself.
Viscosity	:	No data is available on the product itself.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	No decomposition if stored and applied as directed.
Conditions to avoid	:	No data available

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	No data is available on the product itself.

Acute toxicity

Acute oral toxicity - Product	:	Acute toxicity estimate : > 5,000 mg/kg Method: Calculation method
Acute inhalation toxicity - Product	:	Acute toxicity estimate: 2.77 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method
Acute dermal toxicity - Product	:	Acute toxicity estimate : > 5,000 mg/kg Method: Calculation method
Acute toxicity (other routes of	:	No data available

administration)

Skin corrosion/irritation

Product:

Remarks: Extremely corrosive and destructive to tissue.

Serious eye damage/eye irritation

Product:

Remarks: May cause irreversible eye damage.

Respiratory or skin sensitisation

Product:

Remarks: Causes sensitisation.

Assessment: No data available

Germ cell mutagenicity

Components:

4,4'-isopropylidenediphenol:
Genotoxicity in vitro : Metabolic activation: with and without metabolic activation
Result: negative

triethylenetetramine:
Genotoxicity in vitro : Concentration: 0 - 200 µg/L
Metabolic activation: negative
Method: OECD Test Guideline 482
Result: negative

Triethylenetetramine, propoxylated:
Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Species: Chinese hamster ovary cells
Method: OECD Test Guideline 476
Result: negative

Test Type: Ames test
Species: Salmonella typhimurium
Method: OECD Test Guideline 471
Result: positive

Test Type: Chromosome aberration test in vitro
Species: Chinese hamster ovary cells
Method: OECD Test Guideline 473
Result: negative

Components:

4,4'-isopropylidenediphenol:
Genotoxicity in vivo : Method: OECD Test Guideline 474
Result: negative

Diethylenetriamine:

Genotoxicity in vivo : Cell type: Somatic
Application Route: Oral
Dose: 85 - 850 mg/kg
Method: OECD Test Guideline 474
Result: negative

Application Route: Oral
Result: negative

triethylenetetramine:
Genotoxicity in vivo : Application Route: Intraperitoneal injection
Dose: 0 - 600 mg/kg
Method: OECD Test Guideline 474
Result: negative

Components:

Triethylenetetramine, propoxylated:
Germ cell mutagenicity-Assessment : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Germ cell mutagenicity-Assessment : No data available

Carcinogenicity

Components:

4,4'-isopropylidenediphenol:
Species: Rat, (male and female)
Application Route: Oral
Exposure time: 103 weeks
Frequency of Treatment: 7 daily
Result: negative

Diethylenetriamine:
Species: Mouse, (male)
Application Route: Dermal
Dose: 56.3 mg/kg
Frequency of Treatment: 3 daily
Result: negative

triethylenetetramine:
Species: Mouse, (male)
Application Route: Dermal
Dose: 42 mg/kg
Frequency of Treatment: 3 days/week
Method: OECD Test Guideline 451
Result: negative

Species: Mouse, (male)
Application Route: Dermal
Exposure time: 104 weeks
Dose: 16.8 mg/kg
Frequency of Treatment: 3 days/week
Method: OECD Test Guideline 451

Carcinogenicity - Assessment : No data available

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.

OSHA

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP

Known to be human carcinogen

quartz (SiO2)

Reproductive toxicity

Components:

4,4'-isopropylidenediphenol:
Effects on fertility : Species: Rat, male and female
Application Route: Oral
Method: OECD Test Guideline 416
Result: Embryotoxic effects and adverse effects on the offspring were detected.

Diethylenetriamine:

Species: Rat, male and female
Application Route: Oral
General Toxicity - Parent: No observed adverse effect level: 30 mg/kg wet weight
Method: OECD Test Guideline 421

Triethylenetetramine, propoxylated:

Test Type: Fertility
Species: Rat, male and female
Strain: wistar
Application Route: Ingestion
Dose: 100, 300 and 750 milligram per kilogram
General Toxicity - Parent: No-observed-effect level: Measured 750 mg/kg body weight
General Toxicity F1: No-observed-effect level: Measured 750 mg/kg body weight
Method: OECD Test Guideline 422
GLP: yes

Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines:

Species: Rat, male and female
Application Route: Other

Components:

4,4'-isopropylidenediphenol:
Effects on foetal development : Species: Rat, female
Application Route: Oral
General Toxicity Maternal: No observed adverse effect level:

< 160 mg/kg body weight
Method: OECD Test Guideline 416
Result: No teratogenic effects

Diethylenetriamine:

Species: Rat
Application Route: Oral
General Toxicity Maternal: No observed adverse effect level: 100 mg/kg body weight
Method: OECD Test Guideline 421

Phenol, 4-nonyl-, branched:

Species: Rat, female
Application Route: Oral
General Toxicity Maternal: No observed adverse effect level: 75 mg/kg body weight
Method: OECD Test Guideline 414
Result: No teratogenic effects

triethylenetetramine:

Species: Rat
Application Route: Oral
General Toxicity Maternal: No observed adverse effect level: > 750 mg/kg body weight
Method: OECD Test Guideline 414
Result: No teratogenic effects

Species: Rabbit
Application Route: Dermal
General Toxicity Maternal: No observed adverse effect level: 125 mg/kg body weight
Method: OECD Test Guideline 414
Result: No teratogenic effects

Triethylenetetramine, propoxylated:

Species: Rat, male and female
Strain: wistar
Application Route: Ingestion
Dose: 100, 300 and 750 milligram per kilogram
General Toxicity Maternal: No-observed-effect level: Measured 300 mg/kg body weight
Developmental Toxicity: No observed adverse effect level: Measured 750 mg/kg body weight
Method: OECD Test Guideline 422
GLP: yes

Components:

4,4'-isopropylidenediphenol:
Reproductive toxicity - Assessment : Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.

Phenol, 4-nonyl-, branched:
Reproductive toxicity - Assessment : Suspected human reproductive toxicant

Triethylenetetramine, propoxylated:

Reproductive toxicity - Assessment : No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

STOT - single exposure

Components:

4,4'-isopropylidenediphenol:
Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

Diethylenetriamine:
Target Organs: Respiratory Tract
Assessment: May cause respiratory irritation.

STOT - repeated exposure

Components:

Triethylenetetramine, propoxylated:
Exposure routes: Ingestion
Target Organs: Kidney
Assessment: No significant health effects observed at a concentration of 300mg/kg bw/day.

Repeated dose toxicity

Components:

4,4'-isopropylidenediphenol:
Species: Dog, male and female
: 75 mg/kg, 10 mg/m3
Application Route: Ingestion
Test atmosphere: dust/mist
Exposure time: 2,160 h
Number of exposures: 7 d
Method: Subchronic toxicity

Species: Rat, male and female
LOAEL: 600 mg/kg
Application Route: Ingestion
Exposure time: 672 h
Number of exposures: 7 d
Method: Subchronic toxicity

Diethylenetriamine:
Species: Rat, male and female
: 70 - 80 mg/m3
Application Route: Ingestion
Test atmosphere: vapour
Exposure time: 360 h
Number of exposures: 7 d
Method: Subchronic toxicity

Species: Rat, male and female
NOAEL: 114 mg/kg/d

Application Route: Skin contact
Exposure time: 9,600 h
Number of exposures: 6 d
Method: Chronic toxicity

Phenol, 4-nonyl-, branched:
Species: Rat, male and female
NOAEL: 100 mg/kg
Application Route: Ingestion
Exposure time: 672 h
Number of exposures: 7 d
Method: Subacute toxicity

Species: Rat, male and female
NOAEL: 50 mg/kg
Application Route: Ingestion
Exposure time: 2,160 h
Number of exposures: 7 d
Method: Subchronic toxicity

triethylenetetramine:
Species: Rat, male and female
NOAEL: 50 mg/kg/d
Application Route: Ingestion
Exposure time: 26 Weeks
Number of exposures: 7 d
Method: Subchronic toxicity

Triethylenetetramine, propoxylated:
Species: Rat, male and female
NOAEL: 300 mg/kg
Application Route: Ingestion
Exposure time: 43 - 44 Days
Method: OECD Test Guideline 422

Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines:
Species: Rat, male and female
NOAEL: 1000 mg/kg
Application Route: Ingestion
Exposure time: 6 Weeks
Number of exposures: 7 d
Method: Subchronic toxicity

Repeated dose toxicity - Assessment : No data available

Aspiration toxicity

No data available

Experience with human exposure

General Information: No data available

Inhalation: No data available

Skin contact: No data available

Eye contact: No data available

Ingestion: No data available

Toxicology, Metabolism, Distribution

No data available

Neurological effects

No data available

Further information

Product:

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

4,4'-isopropylidenediphenol:
Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 7.5 mg/l
Exposure time: 96 h

Diethylenetriamine:
Toxicity to fish : LC50: 430 mg/l
Exposure time: 96 h
Test Type: semi-static test
Test substance: Fresh water
Method: Directive 67/548/EEC, Annex V, C.1.

Phenol, 4-nonyl-, branched:
Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 0.128 mg/l
Exposure time: 96 h
Test Type: flow-through test
Test substance: Fresh water
Method: ASTM Method, other

LC50 (Lepomis macrochirus (Bluegill sunfish)): 0.209 mg/l
Exposure time: 96 h
Test Type: flow-through test
Test substance: Fresh water
Method: ASTM Method, other

LC50 (Oncorhynchus mykiss (rainbow trout)): 0.221 mg/l
Exposure time: 96 h
Test Type: flow-through test
Test substance: Fresh water
Method: ASTM Method, other

triethylenetetramine:
Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 330 mg/l
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
Method: Fish Acute Toxicity Test

Triethylenetetramine, propoxylated:
Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): Measured 4.1 mg/l
Exposure time: 96 h
Test Type: semi-static test
Analytical monitoring: yes
Method: OECD Test Guideline 203
GLP: yes

Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines:
Toxicity to fish : LC50: 7.07 mg/l
Exposure time: 96 h
Test Type: semi-static test
Test substance: Fresh water
Method: OECD Test Guideline 203

Components:

4,4'-isopropylidenediphenol:
Toxicity to daphnia and other aquatic invertebrates : EC50: 3.9 - 10.2 mg/l
Exposure time: 48 h

(Ceriodaphnia dubia (Water flea)):

Diethylenetriamine:
Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 32 mg/l
Exposure time: 48 h
Test Type: static test
Test substance: Fresh water

Phenol, 4-nonyl-, branched:
Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.085 mg/l
Exposure time: 48 h
Test Type: static test
Test substance: Fresh water
Method: ASTM Method, other

EC50 (Daphnia magna (Water flea)): 0.14 mg/l
Exposure time: 48 h
Test substance: Fresh water
Method: Directive 67/548/EEC, Annex V, C.2.

triethylenetetramine:
Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 31.1 mg/l
Exposure time: 48 h
Test Type: static test
Test substance: Fresh water
Method: Directive 67/548/EEC, Annex V, C.2.

Triethylenetetramine, propoxylated:
Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): Measured 48 mg/l
Exposure time: 48 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 202
GLP: yes

Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines:
Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 5.18 mg/l
Exposure time: 1,152 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 202

Components:

4,4'-isopropylidenediphenol:
Toxicity to algae : EC50 (Selenastrum capricornutum (green algae)): 2.5 - 3.1 mg/l
Exposure time: 96 h

Diethylenetriamine:
Toxicity to algae : EbC50 (Selenastrum capricornutum (green algae)): 1,164 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201

Phenol, 4-nonyl-, branched:
Toxicity to algae : EbC50 (Desmodesmus subspicatus (Scenedesmus subspicatus)): 1.3 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water

ErC50 (Selenastrum capricornutum (green algae)): 0.41 mg/l
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
Method: Algal Toxicity, Tiers I and II

triethylenetetramine:
Toxicity to algae : ErC50 (Selenastrum capricornutum (green algae)): 20 mg/l
Exposure time: 72 h
Test Type: semi-static test
Test substance: Fresh water
Method: OECD Test Guideline 201

Triethylenetetramine, propoxylated:
Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (algae)): Measured 4.1 mg/l
Exposure time: 72 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 201
GLP: yes

Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines:
Toxicity to algae : ErC50 (Selenastrum capricornutum (green algae)): 4.11 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201

Components:

Phenol, 4-nonyl-, branched:
M-Factor (Acute aquatic toxicity) : 10

Components:

4,4'-isopropylidenediphenol:
Toxicity to fish (Chronic toxicity) : NOEC (Pimephales promelas (fathead minnow)): 0.016 mg/l
Exposure time: 444 d
Test Type: flow-through test
Test substance: Fresh water
Method: Fish Life Cycle Toxicity
Remarks: Toxic to aquatic organisms.

Diethylenetriamine:
Toxicity to fish (Chronic toxicity) : NOEC: 10 mg/l
Exposure time: 28 d
Test Type: semi-static test
Test substance: Fresh water
Method: OECD Test Guideline 210

Phenol, 4-nonyl-, branched:
Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 0.006 mg/l
Exposure time: 91 d
Test Type: flow-through test
Test substance: Fresh water

Components:

Diethylenetriamine:
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 5.6 mg/l
Exposure time: 21 d
Test Type: semi-static test
Test substance: Fresh water
Method: Directive 67/548/EEC, Annex V, C.20

triethylenetetramine:
Toxicity to daphnia and other : EC10 (Daphnia magna (Water flea)): 1.9 mg/l

aquatic invertebrates (Chronic toxicity)		Exposure time: 21 d Test Type: semi-static test Test substance: Fresh water Method: OECD Test Guideline 202
M-Factor (Chronic aquatic toxicity)	:	No data available

Components:

Phenol, 4-nonyl-, branched:

Toxicity to bacteria	:	EC50 (activated sludge): 950 mg/l Exposure time: 3 h Test Type: static test Test substance: Fresh water Method: OECD Test Guideline 209

triethylenetetramine:

Toxicity to bacteria	:	EC50 (activated sludge): 800 mg/l Exposure time: 0.5 h Test Type: static test Test substance: Fresh water

Triethylenetetramine, propoxylated:

Toxicity to bacteria	:	EC10 (activated sludge): 38 mg/l Exposure time: 3 h Test Type: static test Test substance: Fresh water Method: OECD Test Guideline 209 GLP:

Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines:

Toxicity to bacteria	:	EC0: > 100 mg/l Method: DIN 38412

Components:

Diethylenetriamine:

Toxicity to soil dwelling organisms	:	EC50 (Eisenia fetida (earthworms)): > 1,000 mg/kg Exposure time: 56 d Method: OECD Test Guideline 222

Phenol, 4-nonyl-, branched:

Toxicity to soil dwelling organisms	:	EC10: 3.44 mg/kg Exposure time: 504 h EC50 (Other): 906.7 mg/kg Exposure time: 4 Weeks Test substance: Synthetic
Plant toxicity	:	No data available
Sediment toxicity	:	No data available

Components:

Phenol, 4-nonyl-, branched:

Toxicity to terrestrial organisms : EC10: 63.2 mg/kg
Exposure time: 672 h
Test substance: Synthetic

Ecotoxicology Assessment

Components:

Diethylenetriamine:
Acute aquatic toxicity : This product has no known ecotoxicological effects.

Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines:
Acute aquatic toxicity : This product has no known ecotoxicological effects.

Components:

4,4'-isopropylidenediphenol:
Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

Toxicity Data on Soil : No data available

Other organisms relevant to the environment : No data available

Further information:
No data available

Persistence and degradability

Components:

4,4'-isopropylidenediphenol:
Biodegradability : Result: Not readily biodegradable.
Biodegradation: 1 - 2 %
Exposure time: 28 d

Diethylenetriamine:
Biodegradability : Inoculum: activated sludge
Result: Readily biodegradable
Biodegradation: 87 %
Exposure time: 21 d
Method: OECD Test Guideline 301D

Phenol, 4-nonyl-, branched:
Biodegradability : Inoculum: activated sludge
Concentration: 13 mg/l
Result: Inherently biodegradable.
Biodegradation: ca. 48.2 %
Exposure time: 35 d
Method: OECD Test Guideline 301B

Inoculum: Sediment
Concentration: 2
Result: Inherently biodegradable.
Biodegradation: 100 %
Exposure time: 63 - 84 d
Method: Anaerobic Biodegradability in the Subsurface

Inoculum: Marine water
Concentration: 11
Biodegradation: 50 %
Exposure time: 56 - 112 d
Method: OECD Test Guideline 309

triethylenetetramine:

Biodegradability : Inoculum: activated sludge
Result: Not readily biodegradable.
Biodegradation: 0 %
Exposure time: 162 d
Method: OECD Test Guideline 301D

Inoculum: activated sludge
Result: Not readily biodegradable.
Biodegradation: 20 %
Exposure time: 84 d
Method: Inherent Biodegradability: Modified SCAS Test

Triethylenetetramine, propoxylated:

Biodegradability : Inoculum: Domestic sewage
Concentration: 100 mg/l
Result: Not readily biodegradable.
Biodegradation: 4 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

Inoculum: activated sludge
Result: Not inherently biodegradable.
Biodegradation: 8 %
Exposure time: 28 d
Method: OECD Test Guideline 302B

Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines:

Biodegradability : Inoculum: activated sludge
Concentration: 9 mg/l
Result: Inherently biodegradable.
Biodegradation: 100 %
Exposure time: 74 d
Method: OECD Test Guideline 301B

Biochemical Oxygen Demand (BOD) : No data available

Chemical Oxygen Demand (COD) : No data available

BOD/COD : No data available

ThOD : No data available

BOD/ThOD : No data available

Dissolved organic carbon (DOC) : No data available

Physico-chemical removability : No data available

Components:

Triethylenetetramine, propoxylated:

Stability in water : Degradation half life(DT50): > 1 yr (25 °C) pH: 4
Method: OECD Test Guideline 111

Degradation half life(DT50): > 1 yr (25 °C) pH: 7
Method: OECD Test Guideline 111

Degradation half life(DT50): > 1 yr (25 °C) pH: 9
Method: OECD Test Guideline 111

Components:

Diethylenetriamine:

Photodegradation : Test Type: Air
Rate constant: 500000
Degradation (direct photolysis): 50 %

Impact on Sewage Treatment : No data available

Bioaccumulative potential

Components:

Diethylenetriamine:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 0.3 - 6.3
Exposure time: 42 d
Test substance: Fresh water
Method: flow-through test
Remarks: Bioaccumulation is unlikely.

Phenol, 4-nonyl-, branched:

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)
Bioconcentration factor (BCF): 231
Remarks: Does not bioaccumulate.

Species: Pimephales promelas (fathead minnow)
Bioconcentration factor (BCF): 740
Remarks: Bioaccumulation is unlikely.

Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines:

Bioaccumulation : Bioconcentration factor (BCF): 1.85 - 2.69
Test substance: Fresh water

Components:

Diethylenetriamine:

Partition coefficient: n-octanol/water : log Pow: -1.58 (20 °C)
pH: 7

Phenol, 4-nonyl-, branched:
Partition coefficient: n-octanol/water : log Pow: 5.4 (23 °C)
pH: 5.7
Method: OECD Test Guideline 117

triethylenetetramine:
Partition coefficient: n-octanol/water : log Pow: -2.65 (20 °C)
Method: OECD Test Guideline 117

Triethylenetetramine, propoxylated:
Partition coefficient: n-octanol/water : log Pow: -2.42
Method: see user defined free text

Mobility in soil

Mobility : No data available

Components:

Diethylenetriamine:
Distribution among environmental compartments : Koc: 19111

Phenol, 4-nonyl-, branched:
Distribution among environmental compartments : Koc: 23000 - 489000

triethylenetetramine:
Distribution among environmental compartments : Koc: 1584.9 - 5012Method: OECD Test Guideline 106

Stability in soil : No data available

Other adverse effects

Environmental fate and pathways : No data available

Components:

Triethylenetetramine, propoxylated:
Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

Endocrine disrupting potential : No data available

Adsorbed organic bound halogens (AOX) : No data available

Hazardous to the ozone layer

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information - Product	:	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.
Global warming potential (GWP)	:	No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.
Contaminated packaging	:	Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulation

IATA

UN/ID No.	:	UN 1760
Proper shipping name	:	Corrosive liquid, n.o.s. (NONYL PHENOL, DIETHYLENE TRIAMINE)
Class	:	8
Packing group	:	II
Labels	:	Corrosive
Packing instruction (cargo aircraft)	:	855
Packing instruction (passenger aircraft)	:	851

IMDG

UN number	:	UN 1760
Proper shipping name	:	CORROSIVE LIQUID, N.O.S. (NONYL PHENOL, DIETHYLENE TRIAMINE)
Class	:	8
Packing group	:	II
Labels	:	8
EmS Code	:	F-A, S-B
Marine pollutant	:	no

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

Not applicable for product as supplied.

National Regulations

DOT Classification

UN/ID/NA number	:	UN 1760
Proper shipping name	:	CORROSIVE LIQUIDS, N.O.S. (NONYL PHENOL, DIETHYLENE TRIAMINE)
Class	:	8
Packing group	:	II
Labels	:	CORROSIVE
ERG Code	:	154
Marine pollutant	:	no

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
phenol	108-95-2	1000	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 311/312 Hazards : Acute Health Hazard
Chronic Health Hazard

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

4,4'-isopropylidenediphenol	80-05-7	3.33 %

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

California Prop. 65 WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

4,4'-isopropylidenediphenol 80-05-7

The components of this product are reported in the following inventories:

CH INV	:	The formulation contains substances listed on the Swiss Inventory, Not in compliance with the inventory
TSCA	:	On the inventory, or in compliance with the inventory
DSL	:	All components of this product are on the Canadian DSL
AICS	:	On the inventory, or in compliance with the inventory
NZIoC	:	Not in compliance with the inventory
ENCS	:	On the inventory, or in compliance with the inventory
KECI	:	Not in compliance with the inventory
PICCS	:	Not in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
TCSI	:	Not in compliance with the inventory

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

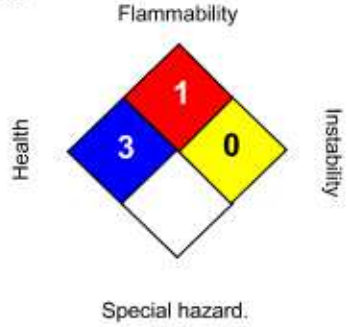
TSCA - 5(a) Significant New Use Rule List of Chemicals
This product is subject under TSCA 5(a) to Significant New Use Restrictions (SNUR).
Phenol, 4-nonyl-, branched 84852-15-3

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)
US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)
Phenol, 4-nonyl-, branched 84852-15-3

SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS III:

HEALTH	3*
FLAMMABILITY	1
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,

2 = Moderate, 3 = High

4 = Extreme, * = Chronic

Revision Date : 07/01/2016

The information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.

THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

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