

SAFETY DATA SHEET

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RENGEL® 1126 US

Version	Revision Date:	SDS Number:	Date of last issue:
1.1	10/09/2018	400001012638	08/31/2015
			Date of first issue: 08/31/2015

SECTION 1. IDENTIFICATION

Product name : RENGEL® 1126 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 (USA)
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



SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Skin irritation : Category 2
Eye irritation : Category 2A
Skin sensitisation : Category 1
Carcinogenicity : Category 2
Short-term (acute) aquatic hazard : Category 3
Long-term (chronic) aquatic hazard : Category 2

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H351 Suspected of causing cancer.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**
P201 Obtain special instructions before use.

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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.

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:

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.

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)
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	1675-54-3	30 - 50
limestone	1317-65-3	30 - 50
Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	68609-97-2	5 - 10
titanium dioxide	13463-67-7	1 - 5
p-tert-butylphenyl 1-(2,3-epoxy)propyl ether	3101-60-8	2.5 - 5

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

Both 25068-38-6 and 1675-54-3 can be used to describe the epoxy resin which is produced through the reaction of bisphenol A and epichlorohydrin

SECTION 4. FIRST AID MEASURES

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- | | |
|---|--|
| General advice | : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Treat symptomatically.
Get medical attention if symptoms occur. |
| If inhaled | : If inhaled, remove to fresh air.
Get medical attention if symptoms occur. |
| In case of skin contact | : If skin irritation persists, call a physician.
If on skin, rinse well with water.
If on clothes, remove clothes. |
| In case of eye contact | : Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist. |
| If swallowed | : Keep respiratory tract clear.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician. |
| Most important symptoms and effects, both acute and delayed | : None known. |
| Notes to physician | : Treat symptomatically. |

SECTION 5. FIREFIGHTING MEASURES

- | | |
|--------------------------------------|---|
| Suitable extinguishing media | : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| 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.

Do not allow run-off from fire fighting to enter drains or water courses. |
| Hazardous combustion products | : No hazardous combustion products are known |
| 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 | : Wear self-contained breathing apparatus for firefighting if |

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for firefighters

necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Refer to protective measures listed in sections 7 and 8.
- 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 : 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.
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 : 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.
Keep in properly labelled containers.
- Materials to avoid : For incompatible materials please refer to Section 10 of this SDS.
- Further information on storage stability : Stable under normal conditions.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible	Basis

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			concentration	
limestone	1317-65-3	TWA (total dust)	15 mg/m3	OSHA Z-1
		TWA (respirable fraction)	5 mg/m3	OSHA Z-1
titanium dioxide	13463-67-7	TWA (total dust)	15 mg/m3	OSHA Z-1
		TWA	10 mg/m3 (Titanium dioxide)	ACGIH

Personal protective equipment

- Respiratory protection : No personal respiratory protective equipment normally required.
- 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 : When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : liquid
- Colour : white
- Odour : mild
- Odour Threshold : No data is available on the product itself.
- pH : No data is available on the product itself.
- Freezing point : No data is available on the product itself.
- Melting point : No data is available on the product itself.
- Boiling point : No data is available on the product itself.
- Flash point : > 199.99 °F / > 93.33 °C
Method: estimated, closed cup
- Evaporation rate : No data is available on the product itself.

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Flammability (solid, gas)	: No data is available on the product itself.
Flammability (liquids)	: No data is available on the product itself.
Upper explosion limit / Upper flammability limit	: No data is available on the product itself.
Lower explosion limit / Lower flammability limit	: No data is available on the product itself.
Vapour pressure	: No data is available on the product itself.
Relative vapour density	: No data is available on the product itself.
Relative density	: 1.49
Density	: No data is available on the product itself.
Solubility(ies) Water solubility	: negligible
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.
Explosive properties	: No data is available on the product itself.
Oxidizing properties	: No data is available on the product itself.
Particle size	: No data is available on the product itself.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No dangerous reaction known under conditions of normal use.
Chemical stability	: Stable under normal conditions. No decomposition if stored and applied as directed. Stable under normal conditions.
Possibility of hazardous reactions	: No dangerous reaction known under conditions of normal use. No decomposition if stored and applied as directed.
	No hazards to be specially mentioned.

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Conditions to avoid : None known.

Incompatible materials : None known.

Hazardous decomposition products : No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

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

Acute toxicity**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Acute oral toxicityComponents : LD50 (Rat, female): > 2,000 mg/kg
Method: OECD Test Guideline 420
Assessment: The substance or mixture has no acute oral toxicity

limestone:

Acute oral toxicityComponents : LD50 (Rat): 6,450 mg/kg

Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.:

Acute oral toxicityComponents : LD50 (Rat, male): ca. 26.8 g/kg
Method: Other guidelines

titanium dioxide:

Acute oral toxicityComponents : LD50 (Rat, female): > 5,000 mg/kg
Method: OECD Test Guideline 425
Assessment: The substance or mixture has no acute oral toxicity

p-tert-butylphenyl 1-(2,3-epoxy)propyl ether:

Acute oral toxicityComponents : LD50 (Rat, female): > 2,000 mg/kg
Method: OECD Test Guideline 425
Assessment: The substance or mixture has no acute oral toxicity

Components:

Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.:

Acute inhalation toxicity : LC0 (Rat): > 0.15 mg/l
Exposure time: 7 h
Test atmosphere: vapour
Method: Other guidelines

titanium dioxide:

Acute inhalation toxicity : LC50 (Rat, male and female): 3.43 - 5.09 mg/l
Exposure time: 4 h

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Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity

Components:

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.:

Acute dermal toxicity : (Rabbit, male): > 4,000 mg/kg, 4,5 ml/kg
Assessment: The substance or mixture has no acute dermal toxicity

titanium dioxide:

Acute dermal toxicity : LD50 Dermal (Rabbit): > 10,000 mg/kg

p-tert-butylphenyl 1-(2,3-epoxy)propyl ether:

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

Acute toxicity (other routes of administration) : No data available

Skin corrosion/irritation**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

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

Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.:

Species: Rabbit
Exposure time: 24 h
Method: Acute Dermal Toxicity
Result: Irritating to skin.

titanium dioxide:

Species: Rabbit
Assessment: No skin irritation
Method: OECD Test Guideline 404
Result: Normally reversible injuries

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p-tert-butylphenyl 1-(2,3-epoxy)propyl ether:

Species: Rat

Assessment: No skin irritation

Method: OECD Test Guideline 402

Result: No skin irritation

Serious eye damage/eye irritation**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Species: Rabbit

Result: Irritating to eyes.

Assessment: Mild eye irritant

Method: OECD Test Guideline 405

limestone:

Species: Rabbit

Result: Mechanical irritation of the eyes is possible.

Assessment: No eye irritation

Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.:

Species: Rabbit

Result: slight irritation

Assessment: No eye irritation

Method: OECD Test Guideline 405

titanium dioxide:

Species: Rabbit

Result: Normally reversible injuries

Assessment: No eye irritation

Method: OECD Test Guideline 405

p-tert-butylphenyl 1-(2,3-epoxy)propyl ether:

Species: Rabbit

Result: No eye irritation

Assessment: No eye irritation

Method: OECD Test Guideline 405

Respiratory or skin sensitisation**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Exposure routes: Skin

Species: Mouse

Assessment: May cause sensitisation by skin contact.

Method: OECD Test Guideline 429

Result: Causes sensitisation.

limestone:

Exposure routes: Skin

Species: Guinea pig

Method: OECD Test Guideline 406

Result: Does not cause skin sensitisation.

Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.:

Test Type: Buehler Test

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Exposure routes: Skin
Species: Guinea pig
Method: OPPTS 870.2600
Result: May cause sensitisation by skin contact.

titanium dioxide:
Test Type: Local lymph node assay (LLNA)
Exposure routes: Skin
Species: Mouse
Assessment: Does not cause skin sensitisation.
Method: OECD Test Guideline 429
Result: Does not cause skin sensitisation.

Exposure routes: Skin
Species: Guinea pig
Assessment: Does not cause skin sensitisation.
Method: OECD Test Guideline 406
Result: Does not cause skin sensitisation.

p-tert-butylphenyl 1-(2,3-epoxy)propyl ether:
Exposure routes: Skin
Species: Mouse
Method: OECD Test Guideline 429
Result: The product is a skin sensitizer, sub-category 1A.

Components:

titanium dioxide:
Assessment: No skin irritation, No eye irritation
Does not cause skin sensitisation., Does not cause respiratory sensitisation.

Germ cell mutagenicity**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:
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

Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.:
Genotoxicity in vitro : Test Type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: positive

Test Type: In vitro mammalian cell gene mutation test
Test system: Chinese hamster ovary cells
Concentration: 0,5 - 5.000 µg/mL
Metabolic activation: with and without metabolic activation

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Method: OECD Test Guideline 476
Result: negative

titanium dioxide:

Genotoxicity in vitro

: Test Type: Ames test
Concentration: 100 - 200 ug/plate
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Concentration: 31 - 500 µg/L
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative

Test Type: Chromosome aberration test in vitro
Concentration: 125 - 2500 µg/L
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative

p-tert-butylphenyl 1-(2,3-epoxy)propyl ether:

Genotoxicity in vitro

: Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary cells
Concentration: 50 ug/plate
Metabolic activation: negative
Method: OECD Test Guideline 473
Result: positive

Test Type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: positive

Components:

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

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

Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.:

Genotoxicity in vivo

: Test Type: In vivo micronucleus test
Species: Mouse (male and female)
Cell type: Bone marrow
Application Route: Intraperitoneal injection
Exposure time: 24 hr, 48 hr, and 72 hr

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Method: OECD Test Guideline 474
Result: negative

titanium dioxide:
Genotoxicity in vivo

: Test Type: Micronucleus test
Species: Mouse (males)
Application Route: Inhalation
Exposure time: 5 consecutive days
Dose: 0.8, 7.2, and 28.5 mg/m³
Method: OECD Test Guideline 474
Result: negative

Test Type: Micronucleus test
Species: Rat (male and female)
Application Route: Oral
Exposure time: once
Dose: 500, 1000, and 2000 mg/kg bw
Method: OECD Test Guideline 474
Result: negative

Components:

titanium dioxide:

Germ cell mutagenicity-
Assessment

: Tests on bacterial or mammalian cell cultures did not show mutagenic effects., Animal testing did not show any mutagenic effects.

Germ cell mutagenicity-
Assessment

: No data available

Carcinogenicity**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

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

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Method: OECD Test Guideline 453
Result: negative

titanium dioxide:
Species: Rat, male and female
Application Route: Oral
Exposure time: 103 weeks
Dose: 0, 25000, 50000 ppm
Frequency of Treatment: 7 days/week
NOAEL: > 50.000 ppm

Method: No information available.

Remarks: Titanium Dioxide: based on the results of chronic inhalation studies (with positive results only in a single species - rat), IARC has concluded that: "There is inadequate evidence in humans for the carcinogenicity of titanium dioxide." but that: "There is sufficient evidence in experimental animals for carcinogenicity of titanium dioxide". IARC's overall evaluation was that "titanium dioxide is possibly carcinogenic to humans (Group 2B)."

Huntsman has examined all of the available animal carcinogenicity and mechanistic data together with workplace epidemiology data for titanium dioxide and concludes that the weight of scientific evidence indicates that there is no causative link between titanium dioxide exposure and cancer risk in humans and that workplace exposures in compliance with applicable exposure standards will not result in lung cancer or chronic respiratory diseases in humans.

Components:

titanium dioxide:

Carcinogenicity - : Not classifiable as a human carcinogen.

Assessment

IARC Group 2B: Possibly carcinogenic to humans
titanium dioxide

ACGIH

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

OSHA

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP

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

Reproductive toxicity**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

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

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Symptoms: No adverse effects
Method: OECD Test Guideline 416
Result: No effects on fertility and early embryonic development were detected.

Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.:

Species: Rat, male and female
Application Route: Dermal
Duration of Single Treatment: 13 Weeks
Frequency of Treatment: 5 days/week
General Toxicity - Parent: No observed adverse effect level:
100 mg/kg body weight
Method: OECD Test Guideline 411

Components:

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Effects on foetal development : Species: Rabbit, female
Application Route: Dermal
General Toxicity Maternal: 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: 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: No observed adverse effect level:
180 mg/kg body weight
Method: OECD Test Guideline 414
Result: No teratogenic effects

Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.:

Species: Rat, female
Application Route: Dermal
Duration of Single Treatment: 6 h
General Toxicity Maternal: No observed adverse effect level:
200 mg/kg body weight
Developmental Toxicity: No observed adverse effect level:
200 mg/kg body weight
Method: OECD Test Guideline 414
Result: No teratogenic effects

titanium dioxide:

Species: Rat, male and female
Application Route: Oral
Dose: 100, 300, and 1000 mg/kg bw/
Duration of Single Treatment: 20 d
Frequency of Treatment: 7 days/week
General Toxicity Maternal: No observed adverse effect level:

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1,000 mg/kg body weight
Developmental Toxicity: No observed adverse effect level:
1,000 mg/kg body weight
Method: OECD Test Guideline 414
Result: No adverse effects

Components:

titanium dioxide:

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

No data available

STOT - repeated exposure

No data available

Repeated dose toxicity**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Species: Rat, male and female

NOAEL: 50 mg/kg

Application Route: Ingestion

Exposure time: 14 Weeks

Number of exposures: 7 d

Method: Subchronic toxicity

Species: Rat, male and female

NOEL: 10 mg/kg

Application Route: Skin contact

Exposure time: 13 Weeks

Number of exposures: 5 d

Method: Subchronic toxicity

Species: Mouse, male

NOAEL: 100 mg/kg

Application Route: Skin contact

Exposure time: 13 Weeks

Number of exposures: 3 d

Method: Subchronic toxicity

Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.:

Species: Rat, male and female

NOEL: 1 mg/kg

LOAEL: 10 mg/kg

Application Route: Skin contact

Exposure time: 13 Weeks

Number of exposures: 5 days/week for 13 weeks

Method: OECD Test Guideline 411

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titanium dioxide:
Species: Rat, male and female
NOEC: 3500 mg/m³
Application Route: Ingestion
Test atmosphere: dust/mist
Exposure time: 2 yr
Number of exposures: 5 d
Method: Chronic toxicity

Species: Rat, male and female
NOEC: 10 - 50 mg/m³
Application Route: Inhalation
Exposure time: 2 yr
Number of exposures: 6 hours/day, 5 days/week
Method: Chronic toxicity

Components:

titanium dioxide:
Repeated dose toxicity - Assessment : No skin irritation, No eye irritation
No adverse effect has been observed in chronic toxicity tests.

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

Ingestion: No data available

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SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

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

limestone:

Toxicity to fish : LC50: > 56,000 mg/l
 Exposure time: 96 h

Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.:

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
 Exposure time: 96 h
 Test Type: semi-static test
 Method: OECD Test Guideline 203

titanium dioxide:

Toxicity to fish : LC50 (Cyprinodon variegatus (sheepshead minnow)): > 10,000 mg/l
 Exposure time: 96 h
 Test Type: semi-static test
 Test substance: Marine water
 Method: OECD Test Guideline 203

p-tert-butylphenyl 1-(2,3-epoxy)propyl ether:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 7.5 mg/l
 Exposure time: 96 h
 Test Type: static test
 Test substance: Fresh water
 Method: OECD Test Guideline 203

Components:

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

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

Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.:

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): 7.2 mg/l
 Exposure time: 48 h
 Test Type: static test
 Method: OECD Test Guideline 202

p-tert-butylphenyl 1-(2,3-epoxy)propyl ether:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): ca. 67.9 mg/l
 Exposure time: 48 h
 Test Type: static test
 Test substance: Fresh water

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Method: OECD Test Guideline 202

Components:

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

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

Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.:

Toxicity to algae : IC50 (Selenastrum capricornutum (green algae)): 843.75 mg/l
 Exposure time: 72 h
 Test Type: static test
 Method: OECD Test Guideline 201

p-tert-butylphenyl 1-(2,3-epoxy)propyl ether:

Toxicity to algae : EbC50 (Selenastrum capricornutum (green algae)): ca. 9 mg/l
 Exposure time: 72 h
 Test Type: static test
 Test substance: Fresh water
 Method: OECD Test Guideline 201

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

Toxicity to fish (Chronic toxicity) : No data available

Components:

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

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

limestone:

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC50 (Daphnia magna (Water flea)): > 350 mg/l
 Exposure time: 125 d
 Test Type: semi-static test
 Test substance: Fresh water

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

Components:

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

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

Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.:

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Toxicity to microorganisms : IC50 (activated sludge): > 100 mg/l
Exposure time: 3 h
Test Type: static test
Method: OECD Test Guideline 209

p-tert-butylphenyl 1-(2,3-epoxy)propyl ether:

Toxicity to microorganisms : EC50: > 1,000 mg/l
Exposure time: 3 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 209

Toxicity to soil dwelling organisms : No data available

Components:

titanium dioxide:
Plant toxicity : NOEC: 100,000 mg/kg
Exposure time: 480 h

Components:

titanium dioxide:
Sediment toxicity : (Gammarus pulex (Amphipod)): > 100000 mg/kg sediment dw
Study: Acute
Test Type: semi-static test
Water: Fresh water
Exposure duration: 28 d
Method: ASTM Method, other

(Gammarus pulex (Amphipod)): 100000 mg/kg sediment dw
Study: Chronic
Test Type: semi-static test
Water: Fresh water
Exposure duration: 28 d
Method: ASTM Method, other

(Gammarus pulex (Amphipod)): 14989 mg/kg sediment dw
Study: Acute
Test Type: semi-static test
Water: Marine water
Exposure duration: 10 d

Components:

titanium dioxide:
Toxicity to terrestrial organisms : NOEC: 10,000 mg/kg
Exposure time: 672 h

Ecotoxicology Assessment

Acute aquatic toxicity - Product : Harmful to aquatic life.

Chronic aquatic toxicity : No data available

Toxicity Data on Soil : No data available

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Other organisms relevant to the environment : No data available

Persistence and degradability**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Biodegradability : Inoculum: Sewage (STP effluent)
 Concentration: 20 mg/l
 Result: Not readily biodegradable.
 Biodegradation: 5 %
 Exposure time: 28 d
 Method: OECD Test Guideline 301F

Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.:

Biodegradability : Test Type: aerobic
 Inoculum: activated sludge
 Concentration: 100 mg/l
 Result: Readily biodegradable.
 Biodegradation: 87 %
 Exposure time: 28 d
 Method: OECD Test Guideline 301F

p-tert-butylphenyl 1-(2,3-epoxy)propyl ether:

Biodegradability : Test Type: aerobic
 Inoculum: activated sludge
 Concentration: 5 mg/l
 Result: Not readily biodegradable.
 Biodegradation: ca. 1.1 %
 Exposure time: 28 d
 Method: OECD Test Guideline 301D

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:

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Stability in water : Degradation half life(DT50): 4.83 d (77 °F / 25 °C) pH: 4
 Method: OECD Test Guideline 111

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Remarks: Fresh water

Degradation half life(DT50): 7.1 d (77 °F / 25 °C) pH: 9
 Method: OECD Test Guideline 111
 Remarks: Fresh water

Degradation half life(DT50): 3.58 d (77 °F / 25 °C) pH: 7
 Method: OECD Test Guideline 111
 Remarks: Fresh water

p-tert-butylphenyl 1-(2,3-epoxy)propyl ether:

Stability in water : Degradation half life(DT50): ca. 17 d (77 °F / 25 °C) pH: 7
 Method: OECD Test Guideline 111
 Remarks: Fresh water

Degradation half life(DT50): ca. 7.98 d (77 °F / 25 °C) pH: 4
 Method: OECD Test Guideline 111
 Remarks: Fresh water

Degradation half life(DT50): ca. 10.8 d (77 °F / 25 °C) pH: 9
 Method: OECD Test Guideline 111
 Remarks: Fresh water

Photodegradation : No data available

Impact on Sewage Treatment : No data available

Bioaccumulative potential**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:
 Bioaccumulation : Bioconcentration factor (BCF): 31
 Remarks: Does not bioaccumulate.

titanium dioxide:

Bioaccumulation : Species: Oncorhynchus mykiss (rainbow trout)
 Bioconcentration factor (BCF): 19 - 352
 Exposure time: 14 d
 Test substance: Fresh water
 Method: semi-static test
 Remarks: Does not bioaccumulate.

Components:

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:
 Partition coefficient: n-octanol/water : log Pow: 3.242 (77 °F / 25 °C)
 pH: 7.1
 Method: OECD Test Guideline 117

limestone:

Partition coefficient: n-octanol/water : log Pow: < 1

Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.:

Partition coefficient: n-octanol/water : log Pow: 3.77 (68 °F / 20 °C)

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octanol/water Method: OECD Test Guideline 107

p-tert-butylphenyl 1-(2,3-epoxy)propyl ether:
Partition coefficient: n-octanol/water : log Pow: 3.59 (68 °F / 20 °C)
pH: 7
Method: OECD Test Guideline 107

Mobility in soil

Mobility : No data available

Components:

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Distribution among environmental compartments : Koc: 445

p-tert-butylphenyl 1-(2,3-epoxy)propyl ether:

Distribution among environmental compartments : OECD Test Guideline 121

Koc: ca. 755, log Koc: ca. 2.88
Method: OECD Test Guideline 121

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 : 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.
Toxic to aquatic life with long lasting effects.

Global warming potential (GWP) : No data available

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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.
Dispose of as hazardous waste in compliance with local and national regulations.
Dispose of contents/ container to an approved waste disposal plant.
- Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA

- UN/ID No. : UN 3082
- Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.
(BISPHENOL A EPOXY RESIN)
- 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)
- 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.

National Regulations

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DOT Classification

UN/ID/NA number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(BISPHENOL A EPOXY RESIN)
Class : 9
Packing group : III
Labels : CLASS 9
ERG Code : 171
Marine pollutant : yes(BISPHENOL A EPOXY RESIN)

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

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)
1-chloro-2,3-epoxypropane	106-89-8	100	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 311/312 Hazards : Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitisation
Carcinogenicity

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

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 can expose you to chemicals including titanium dioxide, 1-chloro-2,3-epoxypropane, which is/are known to the State of California to cause cancer, and 1-chloro-2,3-epoxypropane, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

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

DSL : This product contains one or several components listed in the Canadian NDSL.
TCSI : On the inventory, or in compliance with the inventory
TSCA : On the inventory, or in compliance with the inventory

Inventories

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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

No substances are subject to a Significant New Use Rule.

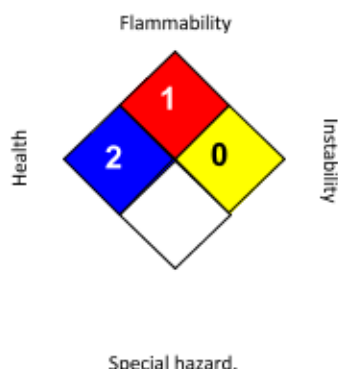
US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:

HEALTH	*	2
FLAMMABILITY		1
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Revision Date : 10/09/2018

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1
Limits for Air Contaminants
ACGIH / TWA : 8-hour, time-weighted average
OSHA Z-1 / TWA : 8-hour time weighted average

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.

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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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SECTION 1. IDENTIFICATION

Product name : REN® 1126 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 (USA)
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 in accordance with 29 CFR 1910.1200

Acute toxicity (Inhalation) : Category 4
Skin corrosion : Category 1B
Serious eye damage : Category 1
Skin sensitisation : Category 1
Reproductive toxicity : Category 1B
Acute aquatic toxicity : Category 3
Chronic aquatic toxicity : Category 3

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.
H360F May damage fertility.
H412 Harmful to aquatic life with long lasting effects.

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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.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/container to an approved facility in accordance with local, regional, national and international regulations.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
2,2'-iminodi(ethylamine)	111-40-0	13 - 30
Triethylenetetramine, propoxylated	26950-63-0	7 - 13
triethylenetetramine	112-24-3	3 - 7
4,4'-isopropylidenediphenol	80-05-7	0.1 - 1
Tetraethylenepentamine	112-57-2	0.1 - 1

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

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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 | : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| 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 | : No data is available on the product itself. |

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products

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.

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

Materials to avoid : No materials to be especially mentioned.

Further information on storage stability : No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
2,2'-iminodi(ethylamine)	111-40-0	TWA	1 ppm	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 : liquid

Colour : clear

amber

Odour : ammoniacal

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Odour Threshold	: No data is available on the product itself.
pH	: No data is available on the product itself.
Freezing point	: No data is available on the product itself.
Melting point	: No data is available on the product itself.
Boiling point	: > 126.67 °C
Flash point	: > 93.33 °C Method: 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 / Upper flammability limit	: No data is available on the product itself.
Lower explosion limit / Lower flammability limit	: No data is available on the product itself.
Vapour pressure	: No data is available on the product itself.
Relative vapour density	: No data is available on the product itself.
Relative density	: 1.08
Density	: No data is available on the product itself.
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.
Explosive properties	: No data is available on the product itself.
Oxidizing properties	: No data is available on the product itself.
Particle size	: No data is available on the product itself.

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SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No dangerous reaction known under conditions of normal use.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: No hazards to be specially mentioned.
Conditions to avoid	: None known.
Incompatible materials	: None known.

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 : 3,822 mg/kg
Method: Calculation method

Acute inhalation toxicity - Product : Acute toxicity estimate: 1.25 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Acute dermal toxicity - Product : Acute toxicity estimate : 4,456 mg/kg
Method: Calculation method

Acute toxicity (other routes of administration) : No data available

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

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Germ cell mutagenicity**Components:**

Triethylenetetramine, propoxylated:

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

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

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

triethylenetetramine:
Genotoxicity in vitro

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

4,4'-isopropylidenediphenol:
Genotoxicity in vitro

: Metabolic activation: with and without metabolic activation
Result: negative

Tetraethylenepentamine:
Genotoxicity in vitro

: Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 479
Result: positive

Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: positive

Metabolic activation: negative
Method: OECD Test Guideline 482
Result: negative

Components:

2,2'-iminodi(ethylamine):
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

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Method: OECD Test Guideline 474
Result: negative

4,4'-isopropylidenediphenol:
Genotoxicity in vivo

: Method: OECD Test Guideline 474
Result: negative

Tetraethylenepentamine:
Genotoxicity in vivo

: Application Route: Intraperitoneal injection
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:

2,2'-iminodi(ethylamine):

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

4,4'-isopropylidenediphenol:

Species: Rat, (male and female)

Application Route: Oral

Exposure time: 103 weeks

Frequency of Treatment: 7 daily

Result: negative

Carcinogenicity -
Assessment : No data available

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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.

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

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

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

Reproductive toxicity**Components:**

2,2'-iminodi(ethylamine):
Effects on fertility

: 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
Result: positive

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

4,4'-isopropylidenediphenol:

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

Components:

2,2'-iminodi(ethylamine):
Effects on foetal
development

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

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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

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

4,4'-isopropylidenediphenol:

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

Tetraethylenepentamine:

Species: Rabbit, female
Application Route: Dermal
General Toxicity Maternal: No-observed-effect level: 50 mg/kg
body weight
Method: OECD Test Guideline 414
Result: No teratogenic effects

Species: Rat, female
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

Components:

Triethylenetetramine, propoxylated:

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

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4,4'-isopropylidenediphenol:

Reproductive toxicity -
Assessment: Clear evidence of adverse effects on sexual function and
fertility, based on animal experiments.**STOT - single exposure****Components:**

2,2'-iminodi(ethylamine):

Target Organs: Respiratory Tract

Assessment: May cause respiratory irritation.

4,4'-isopropylidenediphenol:

Assessment: The substance or mixture is classified as specific target organ toxicant, single
exposure, category 3 with respiratory tract 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:**

2,2'-iminodi(ethylamine):

Species: Rat, male and female

NOEC: 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

Triethylenetetramine, propoxylated:

Species: Rat, male and female

NOAEL: 300 mg/kg

Application Route: Ingestion

Exposure time: 43 - 44 Days

Method: OECD Test Guideline 422

triethylenetetramine:

Species: Rat, male and female

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NOAEL: 50 mg/kg/d
Application Route: Ingestion
Exposure time: 26 Weeks
Number of exposures: 7 d
Method: Subchronic toxicity

4,4'-isopropylidenediphenol:
Species: Dog, male and female
NOEC: 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

Tetraethylenepentamine:
Species: Rat, male and female
NOAEL: 50 mg/kg/d
Application Route: Ingestion
Exposure time: 26 Weeks
Method: Subchronic toxicity

Species: Rabbit, male and female
NOAEL: 50 mg/kg/d
Application Route: Skin contact
Exposure time: 744 h
Number of exposures: 5 d
Method: Subacute 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

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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:**

2,2'-iminodi(ethylamine):

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.

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

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

4,4'-isopropylidenediphenol:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 7.5 mg/l
Exposure time: 96 h

Tetraethylenepentamine:

Toxicity to fish : LC50 (Poecilia reticulata (guppy)): 420 mg/l
Exposure time: 96 h

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Test Type: semi-static test
 Test substance: Fresh water
 Method: Directive 67/548/EEC, Annex V, C.1.

Components:

2,2'-iminodi(ethylamine):

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

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

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.

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)):

Tetraethylenepentamine:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 24.1 mg/l
 Exposure time: 48 h
 Test Type: static test
 Test substance: Fresh water
 Method: Tested according to Annex V of Directive 67/548/EEC.

Components:

2,2'-iminodi(ethylamine):

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

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

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ErC10 (*Pseudokirchneriella subcapitata* (algae)): Measured
 0.11 mg/l
 Exposure time: 72 h
 Test Type: static test
 Analytical monitoring: yes
 Method: OECD Test Guideline 201

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

4,4'-isopropylidenediphenol:
 Toxicity to algae

: EC50 (*Selenastrum capricornutum* (green algae)): 2.5 - 3.1
 mg/l
 Exposure time: 96 h

Tetraethylenepentamine:
 Toxicity to algae

: ErC50 (*Selenastrum capricornutum* (green algae)): 6.8 mg/l
 Exposure time: 72 h
 Test Type: static test
 Test substance: Fresh water
 Method: OECD Test Guideline 201

M-Factor (Acute aquatic
 toxicity)

: No data available

Components:

2,2'-iminodi(ethylamine):
 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

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.

Components:

2,2'-iminodi(ethylamine):
 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:

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Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC10 (Daphnia magna (Water flea)): 1.9 mg/l
Exposure time: 21 d
Test Type: semi-static test
Test substance: Fresh water
Method: OECD Test Guideline 202

Components:

4,4'-isopropylidenediphenol:
M-Factor (Chronic aquatic toxicity) : 1

Components:

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

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

Tetraethylenepentamine:
Toxicity to microorganisms : EC50: 97.3 mg/l
Exposure time: 2 h
Test Type: static test
Test substance: Fresh water

Components:

2,2'-iminodi(ethylamine):
Toxicity to soil dwelling organisms : EC50 (Eisenia fetida (earthworms)): > 1,000 mg/kg
Exposure time: 56 d
Method: OECD Test Guideline 222

Plant toxicity : No data available

Sediment toxicity : No data available

Toxicity to terrestrial organisms : No data available

Ecotoxicology Assessment

Components:

2,2'-iminodi(ethylamine):
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.

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Toxicity Data on Soil : No data available

Other organisms relevant to the environment : No data available

Persistence and degradability**Components:**

2,2'-iminodi(ethylamine):

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

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

triethylenetetramine:

Biodegradability : Inoculum: activated sludge
Result: Not readily biodegradable.
Biodegradation: 0 %
Exposure time: 162 d
Method: OECD Test Guideline 301DInoculum: activated sludge
Result: Not readily biodegradable.
Biodegradation: 20 %
Exposure time: 84 d
Method: Inherent Biodegradability: Modified SCAS Test

4,4'-isopropylidenediphenol:

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

Tetraethylenepentamine:

Biodegradability : Inoculum: activated sludge
Result: Not biodegradable
Biodegradation: 17 %
Exposure time: 84 d
Method: Inherent Biodegradability: Modified SCAS Test

Biochemical Oxygen Demand (BOD) : No data available

Chemical Oxygen Demand (COD) : No data available

BOD/COD : No data available

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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:

2,2'-iminodi(ethylamine):

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

Impact on Sewage Treatment : No data available

Bioaccumulative potential

Components:

2,2'-iminodi(ethylamine):

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.

Components:

2,2'-iminodi(ethylamine):

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

Triethylenetetramine, propoxylated:

Partition coefficient: n-octanol/water : log Pow: -2.42

triethylenetetramine:

Partition coefficient: n-octanol/water : log Pow: -2.65 (20 °C)

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octanol/water

Method: OECD Test Guideline 117

Tetraethylenepentamine:
Partition coefficient: n-
octanol/water

: log Pow: -3.16

Mobility in soil

Mobility

: No data available

Components:

2,2'-iminodi(ethylamine):
Distribution among
environmental compartments
triethylenetetramine:

: Koc: 19111

Distribution among
environmental compartments

: Koc: 1584.9 - 5012
Method: OECD Test Guideline 106

Tetraethylenepentamine:
Distribution among
environmental compartments

: Koc: 3.2 - 3.7
Method: 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.
Harmful to aquatic life with long lasting effects.

Global warming potential

: No data available

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REN® 1126 US

Version 1.2	Revision Date: 07/26/2017	SDS Number: 400001012639	Date of last issue: 07/19/2017 Date of first issue: 06/27/2016
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(GWP)

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 Regulations

IATA

UN/ID No.	: UN 2735
Proper shipping name	: Amines, liquid, corrosive, n.o.s. (DIETHYLENE TRIAMINE, TRIETHYLENE TETRAMINE)
Class	: 8
Packing group	: II
Labels	: Corrosive
Packing instruction (cargo aircraft)	: 855
Packing instruction (passenger aircraft)	: 851

IMDG

UN number	: UN 2735
Proper shipping name	: AMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENE TRIAMINE, TRIETHYLENE TETRAMINE)
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 2735
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Proper shipping name	: AMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENE TRIAMINE, TRIETHYLENE TETRAMINE)
Class	: 8
Packing group	: II
Labels	: CORROSIVE
ERG Code	: 153
Marine pollutant	: no

SECTION 15. REGULATORY INFORMATION**EPCRA - Emergency Planning and Community Right-to-Know Act**

SARA 311/312 Hazards : Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitisation
Reproductive toxicity

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

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 can expose you to chemicals including 4,4'-isopropylidenediphenol, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

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

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

No substances are subject to a Significant New Use Rule.

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)

No substances are subject to TSCA 12(b) export notification requirements.

SAFETY DATA SHEET

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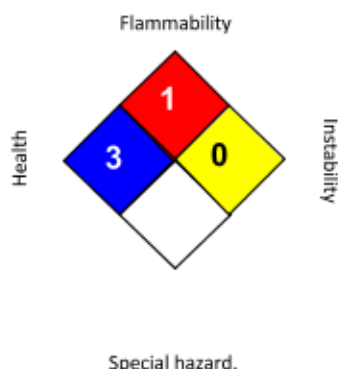
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SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS® IV:

HEALTH	*	3
FLAMMABILITY		1
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Revision Date : 07/26/2017

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
ACGIH / TWA : 8-hour, time-weighted average

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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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