Substance key: 000000411792	Revision Date: 11/11/2024
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SECTION 1. IDENTIFICATION

Identification of the company:	Clariant Corporation 500 East Morehead Street Charlotte, NC, 28202 Telephone No.: +1 704 331 7000 **Information of the substance/preparation:** Product Stewardship, +1-704-331-7710 e-mail: SDS.NORAM@clariant.com **Emergency tel. number:** +1 800-424-9300 CHEMTREC

Trade name:	**HOSTAGEL PH1**
Material number:	240111
Primary product use:	Viscosifier
Chemical family:	Blend of amine components

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids	:	Category 3
Acute toxicity (Oral)	:	Category 4
Skin corrosion	:	Category 1B
Serious eye damage	:	Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.

Precautionary statements : P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read label before use.

Prevention:

P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
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.
P363 Wash contaminated clothing before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

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

No additional hazards are known except those derived from the labelling.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
2,2´-(Octadec-9-enylimino)bisethanol	25307-17-9	>= 70 - < 90
C18-Alkyltrimethyl ammonium chloride	112-03-8	>= 10 - < 20
Propylene Glycol	57-55-6	>= 5 - < 10
Propan-2-ol	67-63-0	>= 1 - < 5

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice	:	Remove/ Take off immediately all contaminated clothing. Get medical advice/ attention if you feel unwell.
If inhaled	:	Move the victim to fresh air. Give oxygen or artificial respiration if needed. Get immediate medical advice/ attention. Never give anything by mouth to an unconscious person.
In case of skin contact	:	Wash thoroughly with soap and water for 15 minutes. If skin irritation occurs, seek medical attention.
In case of eye contact	:	Immediately flush eyes with large amounts of water for at least 15 minutes, holding lids apart to ensure flushing of the entire surface. Washing eyes within 1 minute is essential to achieve maximum effectiveness. Seek medical attention immediately.
If swallowed	:	Do NOT induce vomiting. Call a physician immediately.
Most important symptoms and effects, both acute and delayed	:	The possible symptoms known are those derived from the labelling (see section 2). The possible risks known are those derived from the labelling (see section 2).

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Water spray jet Alcohol-resistant foam Dry powder Carbon dioxide (CO2)
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during firefighting	:	In case of fires, hazardous combustion gases are formed: Carbon monoxide (CO) Nitrogen oxides (NOx) Hydrogen chloride
Further information	:	Exercise caution when fighting any chemical fire. Use NIOSH approved self-contained breathing apparatus and full protective clothing.
Special protective equipment for firefighters	:	Wear an approved positive pressure self-contained breathing apparatus in addition to standard fire fighting gear.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Wear suitable protective equipment. Ensure adequate ventilation. Remove all sparking devices or ignition sources. Wearing appropriate personal protective equipment, contain spill, ventilate area of spill or leak. collect into suitable container. Rinse residual with water. Do not allow to contaminate water sources, sewers or soil.
Environmental precautions	:	The product should not be allowed to enter drains, water courses or the soil.
Methods and materials for containment and cleaning up	:	Prevent product from entering drains. Non-sparking tools should be used. Take measures to prevent the build up of electrostatic charge. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Clean contaminated surface thoroughly.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Take measures to prevent the build up of electrostatic charge.
Advice on safe handling	:	Store in a well ventilated area away from heat, sparks or open flames. Keep containers tightly closed when not in use. Wear proper protective equipment.
Further information on storage conditions	:	Store in original container. Keep container closed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Propylene Glycol	57-55-6	TWA	10 mg/m3	US WEEL
Propan-2-ol	67-63-0	TWA	200 ppm	ACGIH
		STEL	400 ppm	ACGIH
		TWA	400 ppm 980 mg/m3	NIOSH REL
		ST	500 ppm 1,225 mg/m3	NIOSH REL
		TWA	400 ppm 980 mg/m3	OSHA Z-1

		TWA	400 ppm 980 mg/m3	OSHA P0
		STEL	500 ppm 1,225 mg/m3	OSHA P0

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
Propan-2-ol	67-63-0	Acetone	Urine	End of shift at end of workweek	40 mg/l	ACGIH BEI

Engineering measures : A system of local and/or general exhaust is recommended where employee exposures are at or above Occupational Exposure Limits (OEL).

Personal protective equipment

Respiratory protection : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection
Remarks : Butyl Rubber, PVC Or Neoprene.

Eye protection : Chemical splash goggles with face shield.

Skin and body protection : Dermal contact should be prevented through the use of impervious clothing, footwear, and a face shield where splattering may occur.

Protective measures : Observe the usual precautions for handling chemicals.

Hygiene measures : Wash hands before breaks and at the end of workday.
Use protective skin cream before handling the product.
Take off immediately all contaminated clothing and wash it before reuse.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour	:	yellow to brown
Odour	:	amine-like
Odour Threshold	:	not determined
pH	:	8 - 9 (68 °F / 20 °C) Concentration: 1 % Method: DIN EN 1262
Melting point	:	approx. 59 °F / 15 °C Method: ISO 3016
Boiling point	:	approx. 180 °F / 82 °C Data relate to solvent
Flash point	:	113 °F / 45 °C Method: DIN EN 22719 / ISO 2719 (closed cup), Seta closed cup Combustion test negative, does not support combustion, not classified as a hazardous substance.
Evaporation rate	:	not determined
Flammability (solid, gas)	:	Not applicable Method: UN-Test L.2
Flammability (liquids)	:	Does not sustain combustion. Method: UN-Test L.2
Self-ignition	:	Not applicable
Upper explosion limit / upper flammability limit	:	12.7 %(V) Data relate to solvent
Lower explosion limit / Lower flammability limit	:	2 %(V) Data relate to solvent
Vapour pressure	:	43 mbar (68 °F / 20 °C) Data relate to solvent
Relative vapour density	:	2.1 The data refer to the solvent
Relative density	:	Not applicable
Density	:	approx. 0.905 g/cm3 (77 °F / 25 °C) Method: DIN 51757

Solubility(ies)		
Water solubility	:	miscible
Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	797 °F / 425 °C Data relate to solvent
Decomposition temperature	:	> 662 °F / 350 °C Heating rate: 3 K/min Method: DSC Information refers to the main component.
Viscosity		
Viscosity, dynamic	:	approx. 130 mPa.s (approx. 77 °F / 25 °C) Method: DIN 53015
Viscosity, kinematic	:	Not applicable
Metal corrosion rate	:	Not applicable
Particle size	:	Not applicable

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 dangerous reaction known under conditions of normal use. Stable
Conditions to avoid	:	Keep away from heat. Keep away from open flames, hot surfaces and sources of ignition.
Incompatible materials	:	not known
Hazardous decomposition products	:	When handled and stored appropriately, no dangerous decomposition products are known

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Eye contact
Skin contact
Ingestion
Inhalation

Acute toxicity

Product:

Acute oral toxicity : Acute toxicity estimate: 1,169 mg/kg
Method: Calculation method

Acute inhalation toxicity : Remarks: no data available

Acute dermal toxicity : Acute toxicity estimate: 3,548 mg/kg
Method: Calculation method

Components:

2,2´-(Octadec-9-enylimino)bisethanol:

Acute oral toxicity : LD50 (Rat, male and female): 1,260 mg/kg
Method: OECD Test Guideline 401
GLP: yes

Acute inhalation toxicity : Remarks: no data available

Acute dermal toxicity : Remarks: no data available

C18-Alkyltrimethyl ammonium chloride:

Acute oral toxicity : LD50 (Rat, male and female): 702.5 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : Remarks: no data available

Propylene Glycol:

Acute oral toxicity : LD50 (Rat, male and female): 22,000 mg/kg
Method: Other
GLP: no

Acute inhalation toxicity : LC50 (Rabbit, no data available): > 317.042 mg/l
Exposure time: 2 h
Test atmosphere: dust/mist
Method: Other
GLP: no

Acute dermal toxicity : LD50 (Rabbit, no data available): > 2,000 mg/kg
Method: Other
GLP: no
Assessment: The substance or mixture has no acute dermal toxicity

Propan-2-ol:

Acute oral toxicity : LD50 (Rat, no data available): 5,840 mg/kg
Method: OECD Test Guideline 401
GLP: no

Acute inhalation toxicity : LC50 (Rat, male and female): > 10000 ppm

Exposure time: 6 h
Test atmosphere: vapour
Method: OECD Test Guideline 403
GLP: yes

Acute dermal toxicity : LD50 (Rabbit, no data available): 13,900 mg/kg
Method: OECD Test Guideline 402
GLP: no

Skin corrosion/irritation

Product:

Result : Causes burns.

Components:

2,2´-(Octadec-9-enylimino)bisethanol:

Species : Rabbit
Method : OECD Test Guideline 404
Result : Causes burns.

C18-Alkyltrimethyl ammonium chloride:

Species : Rabbit
Exposure time : 4 h
Method : OECD Test Guideline 404
Result : Corrosive after 1 to 4 hours of exposure
GLP : yes

Propylene Glycol:

Species : Rabbit
Exposure time : 4 h
Method : OECD Test Guideline 404
Result : No skin irritation
GLP : No information available.

Propan-2-ol:

Species : Rabbit
Exposure time : 4 h
Method : Other
Result : No skin irritation
GLP : no

Serious eye damage/eye irritation

Product:

Result : Corrosive

Components:

2,2´-(Octadec-9-enylimino)bisethanol:

Result : Risk of serious damage to eyes.

C18-Alkyltrimethyl ammonium chloride:

Result : Risk of serious damage to eyes.
Remarks : Study not performed as the substance is corrosive.

Propylene Glycol:

Species : Rabbit
Result : No eye irritation
Method : OECD Test Guideline 405
GLP : No information available.

Propan-2-ol:

Species : Rabbit
Result : Irritating to eyes.
Method : OECD Test Guideline 405
GLP : no

Respiratory or skin sensitisation

Product:

Result : Does not cause respiratory sensitisation.

Components:

2,2´-(Octadec-9-enylimino)bisethanol:

Test Type : Maximisation Test
Species : Guinea pig
Method : Other
Result : Not a skin sensitizer.
Remarks : By analogy with a product of similar composition

Assessment : Harmful if swallowed., Causes severe skin burns and eye damage.

C18-Alkyltrimethyl ammonium chloride:

Test Type : Buehler Test
Exposure routes : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406
Result : Not a skin sensitizer.
GLP : yes

Assessment : Harmful if swallowed., Toxic in contact with skin., Causes severe skin burns and eye damage., Causes serious eye damage.

Propylene Glycol:

Test Type	:	Local lymph node assay (LLNA)
Exposure routes	:	Dermal
Species	:	Mouse
Method	:	OECD Test Guideline 429
Result	:	Not a skin sensitizer.
GLP	:	No information available.

Test Type	:	Maximisation Test
Exposure routes	:	Dermal
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Not a skin sensitizer.
GLP	:	No information available.

Propan-2-ol:

Test Type	:	Buehler Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Not a skin sensitizer.
GLP	:	yes

Germ cell mutagenicity

Product:

Germ cell mutagenicity - Assessment	:	No information available.

Components:

2,2´-(Octadec-9-enylimino)bisethanol:

Genotoxicity in vitro	:	Test Type: Ames test Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative Test Type: Mammalian cell gene mutation assay Test system: mouse lymphoma cells Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476 Result: negative Test Type: Chromosome aberration test in vitro Test system: Human lymphocytes Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 473 Result: negative
Germ cell mutagenicity - Assessment	:	In vitro tests did not show mutagenic effects

C18-Alkyltrimethyl ammonium chloride:

Genotoxicity in vitro : Test Type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: yes

Test Type: gene mutation test
Test system: Chinese hamster fibroblasts
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
GLP: yes

Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster fibroblasts
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative
GLP: yes

Germ cell mutagenicity - Assessment : In vitro tests did not show mutagenic effects

Propylene Glycol:

Genotoxicity in vitro : Test Type: Ames test
Test system: Salmonella typhimurium
Concentration: <= 10 mg/plate
Metabolic activation: with
Method: Ames test
Result: negative
GLP: No information available.

Test Type: Chromosome aberration test in vitro
Test system: Human lymphocytes
Concentration: 7,4 - 3810 µg/ml
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative
GLP: yes

Genotoxicity in vivo : Test Type: Chromosome Aberration Test
Species: Rat (male)
Strain: Sprague-Dawley
Cell type: Bone marrow
Application Route: oral (gavage)
Exposure time: 6 - 24 - 48 h
Dose: 30, 2500, and 5000 mg/kg
Method: Other
Result: negative

GLP: no

Test Type: In vivo micronucleus test
Species: Mouse (male)
Cell type: Erythrocytes
Application Route: Intraperitoneal injection
Exposure time: 18 h
Dose: 0, 2500, 5000, 10000, 15000 mg
Method: Other
Result: negative
GLP: No information available.

Germ cell mutagenicity - Assessment : In vitro tests did not show mutagenic effects, In vivo tests did not show mutagenic effects

Propan-2-ol:

Genotoxicity in vitro : Test Type: In vitro gene mutation study in mammalian cells
Test system: Chinese hamster ovary cells
Concentration: 500 - 5000 µg/ml
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
GLP: yes

Test Type: Ames test
Test system: Salmonella typhimurium
Concentration: 100 - 10000 µg/plate
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: no

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse (male and female)
Strain: ICR
Cell type: Bone marrow
Application Route: Intraperitoneal injection
Exposure time: Single exposure
Dose: 350-1173-2500-3500 mg/kg
Method: OECD Test Guideline 474
Result: negative
GLP: yes

Germ cell mutagenicity - Assessment : In vitro tests did not show mutagenic effects, In vivo tests did not show mutagenic effects

Carcinogenicity

Product:

Carcinogenicity - Assessment : No information available.

Components:

2,2´-(Octadec-9-enylimino)bisethanol:

Carcinogenicity - Assessment : No information available.

C18-Alkyltrimethyl ammonium chloride:

Carcinogenicity - Assessment : No information available.

Propylene Glycol:

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

Propan-2-ol:

Species	:	Rat, male and female
Application Route	:	Inhalation
Exposure time	:	104 w
Dose	:	200 - 2500 - 5000 ppm
Control Group	:	yes
Frequency of Treatment	:	6 hours/day, 5 days/week
	:	ca. 12.29 mg/l
Method	:	OECD Test Guideline 451
GLP	:	yes

Carcinogenicity - Assessment : Did not show carcinogenic effects in animal experiments.

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 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

Product:

Reproductive toxicity - Assessment : No information available.
No information available.

Components:

2,2´-(Octadec-9-enylimino)bisethanol:

Effects on fertility : Test Type: Two-generation study
Species: Rat, male and female
Strain: wistar
Application Route: oral (gavage)
General Toxicity - Parent: NOAEL: 125 mg/kg body weight

General Toxicity F1: NOAEL: 125 mg/kg body weight
Method: OECD Test Guideline 422
Remarks: By analogy with a product of similar composition

Test Type: One generation study
Species: Rat, male and female
Strain: wistar
Application Route: oral (gavage)
General Toxicity - Parent: NOAEL: 150 mg/kg body weight
General Toxicity F1: NOAEL: 150 mg/kg body weight
Method: OECD Test Guideline 443

Effects on foetal development : Test Type: Pre-natal
Species: Rat, female
Strain: Sprague-Dawley
Application Route: oral (gavage)
Dose: 15, 50, 150 mg/kg/day
General Toxicity Maternal: NOAEL: 150 mg/kg body weight
Developmental Toxicity: NOAEL: 150 mg/kg body weight
Method: OECD Test Guideline 414
GLP: yes

Reproductive toxicity - Assessment : No toxicity to reproduction

C18-Alkyltrimethyl ammonium chloride:

Effects on fertility : Test Type: Two-generation study
Species: Rat, male and female
Strain: Sprague-Dawley
Application Route: oral (feed)
Dose: 250, 1000, 2000 ppm
General Toxicity - Parent: NOAEL: 250 mg/kg body weight
General Toxicity F1: NOAEL: 250 mg/kg body weight
Method: OECD Test Guideline 416
GLP: yes
Remarks: By analogy with a product of similar composition

Effects on foetal development : Test Type: Pre-natal
Species: Rabbit
Strain: NZW
Application Route: Dermal
Dose: 0, 10, 20 and 40 mg/kg bw/da
Duration of Single Treatment: 11 d
General Toxicity Maternal: NOAEL: 40 mg/kg body weight
Developmental Toxicity: NOAEL: 40 mg/kg body weight
Method: OECD Test Guideline 414
GLP: yes
Remarks: By analogy with a product of similar composition

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

Propylene Glycol:

Effects on fertility : Test Type: Two-generation study
Species: Mouse, male and female
Strain: CD1
Application Route: Drinking water
Dose: 1820 - 4800 - 10100 mg/kg
General Toxicity - Parent: NOAEL: 10,100 mg/kg body weight
General Toxicity F1: NOAEL: 10,100 mg/kg body weight
General Toxicity F2: NOAEL: 10,100 mg/kg body weight
Method: Other
GLP: No information available.

Effects on foetal development : Test Type: Pre-natal
Species: Mouse, female
Strain: CD1
Application Route: oral (gavage)
Dose: 520 - 5200 - 10400 mg/kg
Duration of Single Treatment: 9 d
General Toxicity Maternal: NOAEL: 520 mg/kg body weight
Teratogenicity: NOAEL: 1,040 mg/kg body weight
Method: OECD Test Guideline 414
GLP: yes

Reproductive toxicity - Assessment : No reproductive toxicity to be expected.
No teratogenic effects to be expected.

Propan-2-ol:

Effects on fertility : Test Type: Fertility/early embryonic development
Species: Rat, male and female
Strain: wistar
Application Route: Drinking water
Dose: 0,5 - 1 - 2 %
General Toxicity - Parent: NOAEL: 853 mg/kg body weight
Method: OECD Test Guideline 415
GLP: yes

Test Type: Two-generation study
Species: Rat, male and female
Strain: Sprague-Dawley
Application Route: oral (gavage)
Dose: 100 - 500 - 1000 mg/kg
General Toxicity - Parent: NOAEL: 500 mg/kg body weight
General Toxicity F1: NOAEL: 500 mg/kg body weight
General Toxicity F2: NOAEL: 500 mg/kg body weight
Method: OECD Test Guideline 416
GLP: yes

Effects on foetal development : Test Type: Pre-natal
Species: Rat
Strain: wistar
Application Route: Drinking water
Dose: 0,5 - 1,25 - 2,5 %
Duration of Single Treatment: 10 d

General Toxicity Maternal: NOAEL: 596 mg/kg body weight
Developmental Toxicity: NOAEL: 596 mg/kg body weight
Method: OECD Test Guideline 414
GLP: yes

Test Type: Pre-natal
Species: Rat
Strain: Sprague-Dawley
Application Route: oral (gavage)
Dose: 400 - 800 - 1200 mg/kg
Duration of Single Treatment: 9 d
General Toxicity Maternal: NOAEL: 400 mg/kg body weight
Teratogenicity: NOAEL: 400 mg/kg body weight
Developmental Toxicity: NOAEL: 400 mg/kg body weight
Method: OECD Test Guideline 414
GLP: yes

Reproductive toxicity - Assessment : No reproductive toxicity to be expected.
No teratogenic effects to be expected.

STOT - single exposure

Product:

Remarks : no data available

Components:

2,2´-(Octadec-9-enylimino)bisethanol:

Remarks : no data available

C18-Alkyltrimethyl ammonium chloride:

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

Propylene Glycol:

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

Propan-2-ol:

Assessment : May cause drowsiness or dizziness.

STOT - repeated exposure

Product:

Remarks : no data available

Components:

2,2´-(Octadec-9-enylimino)bisethanol:

Remarks : no data available

C18-Alkyltrimethyl ammonium chloride:

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Propylene Glycol:

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Propan-2-ol:

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Product:

Remarks : no data available

Components:

2,2´-(Octadec-9-enylimino)bisethanol:

Species	:	Rat, male and female
NOAEL	:	30 mg/kg bw/day
Application Route	:	oral (gavage)
Exposure time	:	28 d
Dose	:	30, 100, 250/150 mg/kg/day
Method	:	OECD Test Guideline 407
Target Organs	:	Digestive organs

Species	:	Rat, male and female
NOAEL	:	5 mg/kg bw/day
Application Route	:	oral (gavage)
Exposure time	:	90 d
Dose	:	5, 30, 150 mg/kg bw/d
Method	:	OECD Test Guideline 408

Repeated dose toxicity - Assessment : Harmful if swallowed., Causes severe skin burns and eye damage.

C18-Alkyltrimethyl ammonium chloride:

Species	:	Rat, male and female
NOAEL	:	113 mg/kg
Application Route	:	oral (feed)
Exposure time	:	90 d
Dose	:	22, 113 and 273 mg/kg bw/day
Control Group	:	yes
Method	:	OECD Test Guideline 408
Remarks	:	By analogy with a product of similar composition

Species : Rabbit, male and female

NOAEL	:	10 mg/kg
Application Route	:	Dermal
Exposure time	:	28 d
Number of exposures	:	5 days/week for 4 wks
Dose	:	0 or 10 mg/kg/day
Control Group	:	yes
Method	:	OECD Test Guideline 410
GLP	:	No information available.
Remarks	:	By analogy with a product of similar composition

Repeated dose toxicity - Assessment	:	Harmful if swallowed., Toxic in contact with skin., Causes severe skin burns and eye damage., Causes serious eye damage.

Propylene Glycol:

Species	:	Rat, male and female
NOAEL	:	1.700 - 2.100 mg/kg bw/day
Application Route	:	oral (feed)
Exposure time	:	2 a
Number of exposures	:	daily
Dose	:	200, 400, 900, 1700 mg/kg bw
Control Group	:	yes
Method	:	Other
GLP	:	no

Species	:	Cat, male
NOAEL	:	443 mg/kg bw/day
Application Route	:	oral (feed)
Exposure time	:	69 - 94 d
Number of exposures	:	daily
Dose	:	80 - 4239 mg/kg
Control Group	:	yes
Method	:	Other
GLP	:	no

Species	:	Rat, male and female
LOEL	:	0.16 mg/l
Application Route	:	Inhalation
Test atmosphere	:	dust/mist
Exposure time	:	90 d
Number of exposures	:	6 hours/day, 5 days/week
Dose	:	0,16 - 1,01 - 2,18 mg/l
Control Group	:	yes
Method	:	Other
GLP	:	No information available.

Species	:	Mouse, female
NOAEL	:	0.02
Application Route	:	Dermal
Exposure time	:	Lifespan
Number of exposures	:	2x / w
Dose	:	10-50-100% / 0.02 ml acetone
Control Group	:	yes

Method	:	Other
GLP	:	no
Remarks	:	No pathological findings

Propan-2-ol:

Species	:	Rat, male and female
NOAEL	:	12.5 mg/l
Application Route	:	Inhalation
Test atmosphere	:	vapour
Exposure time	:	2 a
Number of exposures	:	6 hours/day, 5 days/week
Dose	:	500 - 2500 - 5000 ppm
Control Group	:	yes
Method	:	Other
GLP	:	yes

Aspiration toxicity

Product:

no data available

Components:

2,2´-(Octadec-9-enylimino)bisethanol:

no data available

C18-Alkyltrimethyl ammonium chloride:

No aspiration toxicity classification

Propylene Glycol:

No aspiration toxicity classification

Propan-2-ol:

No aspiration toxicity classification

Experience with human exposure

Product:

General Information	:	The possible symptoms known are those derived from the labelling (see section 2).

Further information

Product:

Remarks	:	The classification was made by the conventional (calculation) method of the CLP Regulation (EC) No 1272/2008. no data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish	:	Remarks: no data available
Toxicity to daphnia and other aquatic invertebrates	:	Remarks: no data available
Toxicity to algae/aquatic plants	:	Remarks: no data available
Toxicity to microorganisms	:	Remarks: no data available

Components:

2,2´-(Octadec-9-enylimino)bisethanol:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): 0.1 mg/l Exposure time: 96 h Test Type: semi-static test Method: OECD Test Guideline 203 Remarks: By analogy with a product of similar composition
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.043 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202 GLP: yes Remarks: By analogy with a product of similar composition
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): 15,6 End point: Growth rate Exposure time: 72 h Test Type: static test Method: OECD Test Guideline 201 EC50 (Pseudokirchneriella subcapitata (algae)): 86,7 End point: Growth rate Exposure time: 72 h Test Type: static test Method: OECD Test Guideline 201
M-Factor (Acute aquatic toxicity)	:	10
Toxicity to fish (Chronic toxicity)	:	Remarks: no data available
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 0.0245 mg/l End point: Reproduction rate Exposure time: 21 d Test Type: semi-static test

Method: OECD Test Guideline 211

M-Factor (Chronic aquatic toxicity) : 1

Toxicity to microorganisms : EC50 (activated sludge of a predominantly domestic sewage): 128 mg/l
Exposure time: 3 h
Test Type: static test
Method: OECD Test Guideline 209

Toxicity to soil dwelling organisms : NOEC (Eisenia fetida (earthworms)): 500 mg/kg
Exposure time: 56 d
End point: Body weight
Method: OECD Test Guideline 222
Remarks: By analogy with a product of similar composition

Sediment toxicity : NOEC (Lumbriculus variegatus (Worm)): 84.6 mg/kg dry weight (d.w.)
Analytical monitoring: yes
Solvent: no
Test Type: static test
Exposure duration: 28 d
Method: OECD 225
Remarks: By analogy with a product of similar composition

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

C18-Alkyltrimethyl ammonium chloride:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 0.064 mg/l
End point: mortality
Exposure time: 96 h
Test Type: semi-static test
Analytical monitoring: no
Method: OECD Test Guideline 203
GLP: no

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.037 mg/l
End point: Immobilization
Exposure time: 48 h
Test Type: static test
Analytical monitoring: no
Method: OECD Test Guideline 202
GLP: no

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (algae)): 0.113 mg/l
End point: Growth rate
Exposure time: 72 h
Test Type: static test

Analytical monitoring: no
Method: OECD Test Guideline 201
GLP: yes

ErC10 (Pseudokirchneriella subcapitata (algae)): 0.068 mg/l
End point: Growth rate
Exposure time: 72 h
Test Type: static test
Analytical monitoring: no
Method: OECD Test Guideline 201
GLP: yes

M-Factor (Acute aquatic toxicity) : 10

Toxicity to fish (Chronic toxicity) : NOEC (Pimephales promelas (fathead minnow)): 0.032 mg/l
End point: mortality
Exposure time: 28 d
Analytical monitoring: yes
Method: Other
GLP: yes
Remarks: By analogy with a product of similar composition

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.00415 mg/l
End point: mortality
Exposure time: 21 d
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 211
GLP: No information available.
Remarks: By analogy with a product of similar composition

M-Factor (Chronic aquatic toxicity) : 1

Toxicity to microorganisms : EC50: 130 mg/l
Exposure time: 28 d
Method: OECD Test Guideline 216

Toxicity to soil dwelling organisms : Test Type: artificial soil
LC50 (Eisenia fetida (earthworms)): 7,070 mg/kg
Exposure time: 14 d
End point: mortality
Method: OECD Test Guideline 207
GLP: yes

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

Propylene Glycol:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 40,613 mg/l End point: mortality Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: Other GLP: no
Toxicity to daphnia and other aquatic invertebrates	:	LC50 (Mysidopsis bahia (opossum shrimp)): 18,800 mg/l End point: mortality Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: Other GLP: yes
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): 19,000 mg/l End point: Growth rate Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: yes ErC50 (Skeletonema costatum (marine diatom)): 19,100 mg/l End point: Growth rate Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: yes
Toxicity to fish (Chronic toxicity)	:	Chronic Toxicity Value (Fish): 2,500 mg/l End point: Other Exposure time: 30 d Method: Other GLP: no Remarks: The value is given based on a SAR/AAR approach using OECD Toolbox, DEREK, VEGA QSAR models (CAESAR models), etc.
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Ceriodaphnia spec.): 13,020 mg/l End point: Reproduction rate Exposure time: 7 d Test Type: semi-static test Analytical monitoring: yes Method: Other GLP: No information available.
Toxicity to microorganisms	:	NOEC (Pseudomonas putida): > 20,000 mg/l End point: Growth rate Exposure time: 18 h Test Type: Growth inhibition

Analytical monitoring: no
Method: Other
GLP: no

Sediment toxicity : LC50: 6983 mg/kg dry weight (d.w.)
Analytical monitoring: yes
Solvent: no
Duration: 10 d
Test Type: static test
Sediment: Natural sediment
Basis for effect: mortality
Method: Other
GLP: yes

Propan-2-ol:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 9,640 mg/l
End point: mortality
Exposure time: 96 h
Test Type: flow-through test
Analytical monitoring: yes
Method: OECD Test Guideline 203
GLP: no

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): > 10,000 mg/l
End point: Immobilization
Exposure time: 24 h
Test Type: static test
Analytical monitoring: no
Method: OECD Test Guideline 202
GLP: no

Toxicity to algae/aquatic plants : EC10 (Scenedesmus quadricauda (Green algae)): ca. 1,800 mg/l
End point: Growth rate
Exposure time: 7 d
Test Type: static test
Analytical monitoring: no
Method: Other
GLP: no

Toxicity to fish (Chronic toxicity) : Remarks: not required

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : Remarks: not required

Toxicity to microorganisms : EC10 (Pseudomonas putida): ca. 1,050 mg/l
Exposure time: 16 h
Test Type: static test
Analytical monitoring: no
Method: DIN 38412 T.8
GLP: no

Plant toxicity	:	IC50: 2,104 mg/l Exposure time: 3 d End point: Growth Species: Lactuca sativa (lettuce) Analytical monitoring: no Method: Other GLP: no
Sediment toxicity	:	Remarks: Not applicable
Toxicity to terrestrial organisms	:	Remarks: Not applicable

Persistence and degradability

Product:

Biodegradability	:	Remarks: Not applicable

Components:

2,2´-(Octadec-9-enylimino)bisethanol:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 76 % Exposure time: 28 d Method: OECD Test Guideline 301F Remarks: By analogy with a product of similar composition
Photodegradation	:	Sensitiser: OH Concentration: 500,000 1/cm3 Degradation (indirect photolysis): 50 % Method: calculated

C18-Alkyltrimethyl ammonium chloride:

Biodegradability	:	aerobic Inoculum: activated sludge Concentration: 3 mg/l Biochemical Oxygen Demand (BOD) Result: Readily biodegradable. Biodegradation: 77 % Exposure time: 28 d Method: OECD Test Guideline 301D GLP: yes

Propylene Glycol:

Biodegradability	:	aerobic Inoculum: activated sludge Concentration: 100 mg/l ThOD Biochemical Oxygen Demand (BOD) Result: Readily biodegradable. Biodegradation: 100 % Exposure time: 28 d

Method: OECD Test Guideline 301F
GLP: yes

aerobic
Inoculum: activated sludge
Concentration: 50.3 mg/l
Carbon dioxide (CO2)
Result: Readily biodegradable.
Biodegradation: 90.6 %
Exposure time: 64 d
Method: OECD Test Guideline 306
GLP: yes

Propan-2-ol:

Biodegradability : aerobic
Inoculum: activated sludge
Biochemical Oxygen Demand (BOD)
Result: Readily biodegradable.
Biodegradation: 53 %
Exposure time: 5 d
Method: Directive 67/548/EEC, Annex V, C.5
GLP: no

Stability in water : Remarks: Not applicable

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: no data available

Components:

2,2´-(Octadec-9-enylimino)bisethanol:

Bioaccumulation : Bioconcentration factor (BCF): 23.4
Method: calculated

Partition coefficient: n-octanol/water : log Pow: 3.4 (77 °F / 25 °C)
pH: 5 - 6
Method: OECD Test Guideline 123
GLP: no

C18-Alkyltrimethyl ammonium chloride:

Bioaccumulation : Bioconcentration factor (BCF): 70.8
Method: calculated

Partition coefficient: n-octanol/water : log Pow: 3.61 (77 °F / 25 °C)
pH: 7
Method: Other
GLP: yes

Propylene Glycol:

Bioaccumulation	:	Bioconcentration factor (BCF): 0.09 Method: calculated GLP: no Remarks: The value is given based on a SAR/AAR approach using OECD Toolbox, DEREK, VEGA QSAR models (CAESAR models), etc.
Partition coefficient: n-octanol/water	:	log Pow: -1.07 (68.9 °F / 20.5 °C) pH: 6.3 Method: Regulation (EC) No. 440/2008, Annex, A.8 GLP: yes

Propan-2-ol:

Bioaccumulation	:	Remarks: Not applicable
Partition coefficient: n-octanol/water	:	log Pow: 0.05 pH: 25 Method: No information available.

Mobility in soil

Product:

Distribution among environmental compartments	:	Remarks: no data available

Components:

2,2´-(Octadec-9-enylimino)bisethanol:

Distribution among environmental compartments	:	Medium: Soil Koc: 90520 Method: OECD Test Guideline 106 Remarks: By analogy with a product of similar composition

Propylene Glycol:

Distribution among environmental compartments	:	Adsorption/Soil Medium: water - soil log Koc: 0.46 Method: other (calculated)
Stability in soil	:	Test Type: Laboratory Soil temperature: 77 °F / 25 °C Radio label: no Percentage dissipation: 96 - 98 % Method: Other GLP: no

Propan-2-ol:

Distribution among environmental compartments	:	Remarks: Not applicable

Other adverse effects

Product:

Additional ecological information : There is no data available for this product.

Components:

2,2´-(Octadec-9-enylimino)bisethanol:

Results of PBT and vPvB assessment : The substance is not identified as a PBT or as a vPvB substance.

C18-Alkyltrimethyl ammonium chloride:

Results of PBT and vPvB assessment : Substance is not persistent, bioaccumulative, and toxic (PBT).

Propylene Glycol:

Results of PBT and vPvB assessment : Substance is not persistent, bioaccumulative, and toxic (PBT).

Additional ecological information : Do not allow to enter ground water, waterways or waste water.

Propan-2-ol:

Results of PBT and vPvB assessment : Substance is not persistent, bioaccumulative, and toxic (PBT).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

RCRA - Resource Conservation and Recovery Authorization Act : Yes -- If it becomes a waste as sold.

Waste Code : D001

Waste from residues : Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities.

Contaminated packaging : Packaging that cannot be cleaned should be disposed of as product waste

SECTION 14. TRANSPORT INFORMATION

DOT Regulation:

UN/NA-number: UN 2735
Proper shipping name: Amines, liquid, corrosive, n.o.s.
Technical Name: OLEYLAMINOXETHYLATE

Primary hazard class: 8

Packing group: II

IATA

UN/ID number: UN 2735
Proper shipping name: Amines, liquid, corrosive, n.o.s.
Hazard inducer(s): OLEYLAMINOXETHYLATE

Primary risk: 8
Packing group: II
Remarks: Shipment permitted

IMDG

UN no.: UN 2735
Proper shipping name: Amines, liquid, corrosive, n.o.s.
Hazard inducer(s): OLEYLAMINOXETHYLATE

Primary risk: 8
Packing group: II
Marine pollutant: Marine Pollutant
EmS: F-A S-B

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

A characteristic waste RQ of 100 lbs applies to this product in a waste form: D001

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Flammable (gases, aerosols, liquids, or solids)
Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation

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.

Clean Air Act

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

Propylene Glycol	57-55-6	>= 5 - < 10 %
Propan-2-ol	67-63-0	>= 1 - < 5 %

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.
This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.
This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307
This product does not contain any priority pollutants related to the U.S. Clean Water Act

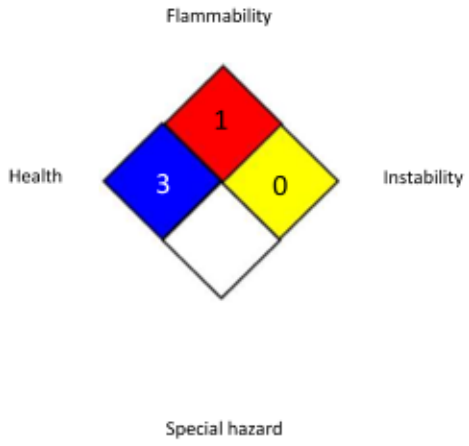
The components of this product are reported in the following inventories:

TSCA	:	All components are compliant with the TSCA Inventory Notification (Active) rule.

SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	:	ACGIH - Biological Exposure Indices (BEI)
NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
OSHA P0	:	USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
US WEEL	:	USA. Workplace Environmental Exposure Levels (WEEL)
ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / STEL	:	Short-term exposure limit
NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
NIOSH REL / ST	:	STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday

OSHA P0 / TWA	:	8-hour time weighted average
OSHA P0 / STEL	:	Short-term exposure limit
OSHA Z-1 / TWA	:	8-hour time weighted average
US WEEL / TWA	:	8-hr TWA

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Observe all necessary precautions for handling flammable substances. Keep away from sources of heat and ignition. Smoking should be prohibited where material is being handled. Electrical grounding of equipment is required.
For additional information, contact Product Stewardship.

Revision Date : 11/11/2024

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