Substance key: 000000713940	Revision Date: 11/16/2017
Version : 1 - 0 / USA	Date of printing :01/18/2018

SECTION 1. IDENTIFICATION

Identification of the company:	Clariant Corporation 4000 Monroe Road Charlotte, NC, 28205 Telephone No.: +1 704-331-7000
	Information of the substance/preparation: BU Oil & Mining Services Product Stewardship +1-704-331-7710
	Emergency tel. number: +1 800-424-9300(CHEMTREC)

Trade name:	**CORRTREAT 15316**
Material number:	305666
Primary product use:	Industrial use
Chemical family:	CORROSION INHIBITOR

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Acute toxicity (Oral)	:	Category 4
Skin corrosion	:	Category 1B
Serious eye damage	:	Category 1
Skin sensitisation	:	Category 1
Specific target organ toxicity - repeated exposure (Oral)	:	Category 2 (Gastrointestinal tract)

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements :
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H373 May cause damage to organs (Gastrointestinal tract) through prolonged or repeated exposure if swallowed.

Precautionary statements :

Prevention:

P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P272 Contaminated work clothing should not be allowed out of the workplace.
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.
P314 Get medical advice/ attention if you feel unwell.
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 waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Substance name : CORROSION INHIBITOR

Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
2-(2-Heptadec-8-enyl-2-imidazolin-1-yl)ethanol	95-38-5	10 - 20
Ethanol, 2,2'-oxybis-, reaction products with ammonia, morpholine derivs. residues	68909-77-3	3 - 5
N-Methyl dialkanol amine and oleic fatty acid diacid copolymer, methyl quaternised	1421663-75-3	1 - 3

2-Mercaptoethanol	60-24-2	1 - 3
2-(2-Butoxyethoxy)ethanol	112-34-5	1 - 5
Phosphoric acid	7664-38-2	1 - 3

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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.

In case of skin contact : Remove contaminated clothing and shoes.
Wash off with soap and plenty of water.
Wash off immediately with plenty of water for at least 15 minutes.
Get medical attention if irritation develops and persists.

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Get immediate medical advice/ attention.

If swallowed : Rinse mouth.
Do NOT induce vomiting.
Never give anything by mouth to an unconscious person.
Get medical advice/ attention.

Most important symptoms and effects, both acute and delayed : No symptoms known currently.
The possible symptoms known are those derived from the labelling (see section 2).

Notes to physician : Treat symptomatically.

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)
Carbon dioxide (CO2)

Further information : In the event of fire and/or explosion do not breathe fumes.

Do not allow run-off from fire fighting to enter drains or water courses.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

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 : Refer to protective measures listed in sections 7 and 8.
Avoid contact with skin, eyes and clothing.
Wash thoroughly after handling.

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 : Observe the general rules of industrial fire protection

Advice on safe handling : Handle in accordance with good industrial hygiene and safety practice.
For personal protection see section 8.
Avoid contact with skin, eyes and clothing.
Use only with adequate ventilation.
Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
Keep away from heat, sparks and open flames. Store in proper container and keep container closed when not in use.

Technical measures/Precautions : Keep containers tightly closed in a cool, well-ventilated place.
Handle and open container with care.

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-Mercaptoethanol	60-24-2	TWA	0.2 ppm	US WEEL
2-(2-Butoxyethoxy)ethanol	112-34-5	TWA (Inhalable fraction and vapor)	10 ppm	ACGIH
Phosphoric acid	7664-38-2	TWA	1 mg/m3	ACGIH
		STEL	3 mg/m3	ACGIH
		TWA	1 mg/m3	NIOSH REL
		ST	3 mg/m3	NIOSH REL
		TWA	1 mg/m3	OSHA Z-1
		TWA	1 mg/m3	OSHA P0
		STEL	3 mg/m3	OSHA P0

Hazardous components without workplace control parameters

Components	CAS-No.
2-(2-Heptadec-8-enyl-2-imidazolin-1-yl)ethanol	95-38-5
Ethanol, 2,2'-oxybis-, reaction products with ammonia, morpholine derivs. residues	68909-77-3
N-Methyl dialkanol amine and oleic fatty acid diacid copolymer, methyl quaternised	1421663-75-3

Engineering measures : Use engineering controls such as local or general exhaust to maintain airborne concentrations below exposure limits.

Personal protective equipment

Hand protection

Remarks : Chemical resistant gloves (butyl rubber, nitrile rubber, polyvinyl alcohol). However, please note that PVA degrades in water.

Eye protection : Chemical splash goggles with face shield.

Skin and body protection : Wear protective clothing, including long sleeves and gloves, to prevent skin contact.

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 : clear, dark brown

Odour	:	mercaptan like, strong
Odour Threshold	:	Not applicable
pH	:	5.5 - 6.6
Solidification point	:	0 °C
Boiling point	:	> 94 °C
Flash point	:	100 °C
Evaporation rate	:	no data available
Flammability (solid, gas)	:	Not applicable
Self-ignition	:	no data available
Upper explosion limit / upper flammability limit	:	no data available
Lower explosion limit / Lower flammability limit	:	no data available
Vapour pressure	:	approximately 2.3 kPa Data relate to solvent
Relative vapour density	:	no data available
Relative density	:	no data available
Density	:	1.049 g/cm3 (20 °C)
Solubility(ies)		
Water solubility	:	soluble
Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	no data available
Decomposition temperature	:	no data available
Viscosity		
Viscosity, dynamic	:	16 mPa.s (25 °C)
Viscosity, kinematic	:	no data available
Explosive properties	:	Not explosive
Oxidizing properties	:	not oxidizing

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use. Stable
Conditions to avoid	:	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

Skin contact
Eye contact
Skin contact

Acute toxicity

Product:

Acute oral toxicity	:	Acute toxicity estimate: 1,891 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate: 80 mg/l Exposure time: 4 h Test atmosphere: vapour Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method

Components:

N-Methyl dialkanol amine and oleic fatty acid diacid copolymer, methyl quaternised:

Acute oral toxicity	:	LD50 (Rat): > 300 - 2,000 mg/kg Method: OECD Test Guideline 401
Acute inhalation toxicity	:	Remarks: no data available
Acute dermal toxicity	:	Remarks: no data available

2-Mercaptoethanol:

Acute oral toxicity	:	LD50 (Rat, male and female): 98 - 168 mg/kg Method: OECD Test Guideline 401

GLP: yes
Remarks: By analogy with a product of similar composition

Acute inhalation toxicity : LC50 (Rat, male): ca. 2 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: Other

Acute dermal toxicity : LD50 (Rabbit, male and female): ca. 112 - 224 mg/kg
Method: Other

2-(2-Butoxyethoxy)ethanol:

Acute oral toxicity : LD50 (Mouse, male): 2,410 mg/kg
Method: OECD Test Guideline 401
GLP: no

Acute inhalation toxicity : LC50 (Rat): > 0.2 mg/l
Exposure time: 2 h
Method: BASF test
GLP: no
Remarks: Not relevant

Acute dermal toxicity : LD50 (Rabbit, male): 2,764 mg/kg
Method: OECD Test Guideline 402
GLP: no

Phosphoric acid:

Acute oral toxicity : LD50 (Rat): approx. 2,600 mg/kg , 1,7 ml (7,54%)/100g
Method: OECD Test Guideline 423
GLP: no

Acute inhalation toxicity : Remarks: Study not performed as the substance is corrosive.

Acute dermal toxicity : Remarks: Study not performed as the substance is corrosive.

Skin corrosion/irritation

Product:

Result: Causes burns.

Components:

N-Methyl dialkanol amine and oleic fatty acid diacid copolymer, methyl quaternised:

Result: No skin irritation

2-Mercaptoethanol:

Species: Rabbit
Method: Other
Result: Skin irritation

2-(2-Butoxyethoxy)ethanol:

Species: Rabbit
Exposure time: 1 h
Method: OECD Test Guideline 404
Result: Mild skin irritation
GLP: no

Phosphoric acid:

Species: Rabbit
Exposure time: 24 h
Method: FDA guideline
Result: Corrosive
GLP: no data available

Serious eye damage/eye irritation

Product:

Result: Risk of serious damage to eyes.

Components:

N-Methyl dialkanol amine and oleic fatty acid diacid copolymer, methyl quaternised:

Result: Risk of serious damage to eyes.

2-Mercaptoethanol:

Species: Rabbit
Result: Risk of serious damage to eyes.
Method: Draize Test

2-(2-Butoxyethoxy)ethanol:

Species: rabbit eye
Result: Severe eye irritation
Method: OECD Test Guideline 405
GLP: no

Phosphoric acid:

Remarks: Study not performed as the substance is corrosive.

Respiratory or skin sensitisation

Product:

Result: May cause sensitisation by skin contact.

Components:

N-Methyl dialkanol amine and oleic fatty acid diacid copolymer, methyl quaternised:

Result: Does not cause skin sensitisation.

2-Mercaptoethanol:

Species: Guinea pig
Method: OECD Test Guideline 406
Result: The product is a skin sensitiser, sub-category 1A.
GLP: yes

Assessment: Toxic if swallowed., Fatal in contact with skin., Toxic if inhaled., Causes skin irritation., Causes serious eye damage. May cause an allergic skin reaction.

2-(2-Butoxyethoxy)ethanol:

Test Type: Guinea pig maximization test
Exposure routes: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Does not cause skin sensitisation.
GLP: No information available.

Phosphoric acid:

Remarks: Study not performed as the substance is corrosive.

Germ cell mutagenicity

Product:

Germ cell mutagenicity - Assessment : No information available.

Components:

N-Methyl dialkanol amine and oleic fatty acid diacid copolymer, methyl quaternised:

Germ cell mutagenicity - Assessment : No information available.

2-Mercaptoethanol:

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

2-(2-Butoxyethoxy)ethanol:

Genotoxicity in vitro : Test Type: Ames test
Test system: Salmonella typhimurium
Concentration: 02 - 20 µl/plate
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: No information available.

Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary cells
Concentration: 1,06 - 10,56 µl/ml
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative
GLP: No information available.

Test Type: HGPRT assay
Test system: Chinese hamster lung cells
Concentration: 1000 - 5000 µg/ml
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
GLP: yes

Genotoxicity in vivo : Test Type: Chromosome Aberration Test
Species: Mouse (male and female)
Strain: CD1
Cell type: Bone marrow
Application Route: oral (gavage)
Exposure time: single dosis
Dose: 330 - 1100 - 3300 mg/kg
Method: OECD Test Guideline 475
Result: negative
GLP: yes

Germ cell mutagenicity - Assessment : It is concluded that the product is not mutagenic based on evaluation of several mutagenicity tests.

Phosphoric acid:

Genotoxicity in vitro : Test Type: Ames test
Test system: Salmonella typhimurium
Concentration: 50 - 5000 µg/plate
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: yes

Test Type: Ames test
Test system: Escherichia coli
Concentration: 50 - 5000 µg/plate
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: yes

Test Type: HGPRT assay
Test system: Mouse cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
GLP: yes

Test Type: Chromosome Aberration Test
Test system: V79 cells (embryonic lung fibroblasts) of the Chinese hamster
Concentration: 112,5 - 450 µg/ml
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative
GLP: yes

Germ cell mutagenicity - Assessment : It is concluded that the product is not mutagenic based on evaluation of several mutagenicity tests.

Carcinogenicity

Product:

Carcinogenicity - Assessment : No information available.

Components:

N-Methyl dialkanol amine and oleic fatty acid diacid copolymer, methyl quaternised:

Carcinogenicity - Assessment : No information available.

2-Mercaptoethanol:

Carcinogenicity - Assessment : No information available.

2-(2-Butoxyethoxy)ethanol:

Carcinogenicity - Assessment : No information available.

Phosphoric acid:

Carcinogenicity - : No information available.

Assessment

IARC	Not listed
OSHA	Not listed
NTP	Not listed

Reproductive toxicity

Product:

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

Components:

N-Methyl dialkanol amine and oleic fatty acid diacid copolymer, methyl quaternised:

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

2-Mercaptoethanol:

Effects on fertility : Species: Rat, male and female
Strain: Sprague-Dawley
General Toxicity - Parent: NOAEL: 15 mg/kg body weight
Method: OECD Test Guideline 422
GLP: yes

Effects on foetal development : Species: Rat
Strain: wistar
Application Route: oral (gavage)
General Toxicity Maternal: NOAEL: 25 mg/kg body weight
Developmental Toxicity: NOAEL: 25 mg/kg body weight
Method: OECD Test Guideline 414
GLP: yes

2-(2-Butoxyethoxy)ethanol:

Effects on fertility : Test Type: Two-generation study
Species: Mouse, male and female
Strain: CD1
Application Route: Drinking water
Dose: 0,5 - 1 - 2 %
General Toxicity - Parent: NOAEL: 720 mg/kg body weight
General Toxicity F1: NOAEL: 720 mg/kg body weight
General Toxicity F2: NOAEL: 720 mg/kg body weight
Method: Other
GLP: yes
Remarks: By analogy with a product of similar composition

Effects on foetal development : Species: Rat
Strain: wistar
Application Route: oral (feed)

Dose: 0,04 - 0,2 - 1 % in diet
General Toxicity Maternal: NOAEL: 633 mg/kg body weight
Teratogenicity: NOAEL: 633 mg/kg body weight
Method: OECD Test Guideline 414
GLP: No information available.

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

Phosphoric acid:

Effects on fertility : Test Type: One generation study
Species: Rat, male and female
Strain: Sprague-Dawley
Application Route: oral (gavage)
Dose: 125 - 250 - 500 mg/kg
General Toxicity F1: NOAEL: >= 500 mg/kg body weight
Method: OECD Test Guideline 422
GLP: yes

Test Type: Two-generation study
Method: OECD Test Guideline 416
Remarks: Not applicable

Effects on foetal development : Species: Mouse, female
Strain: CD1
Application Route: oral (gavage)
Dose: 3,7 - 17,2 - 79,7 - 370 mg/kg
General Toxicity Maternal: NOAEL: >= 370 mg/kg body weight
Teratogenicity: NOAEL: >= 370 mg/kg body weight
Method: OECD Test Guideline 414
GLP: no
Remarks: For this material no values were determined. The classification is based on read across data analogous substances.

Species: Rat, female
Strain: wistar
Application Route: oral (gavage)
Dose: 4,1 - 19 - 88,3 - 410 mg/kg
General Toxicity Maternal: NOAEL: >= 410 mg/kg body weight
Teratogenicity: NOAEL: >= 410 mg/kg body weight
Method: OECD Test Guideline 414
GLP: no
Remarks: For this material no values were determined. The classification is based on read across data analogous substances.

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

No teratogenic effects to be expected.

STOT - single exposure

Product:

Remarks: no data available

Components:

N-Methyl dialkanol amine and oleic fatty acid diacid copolymer, methyl quaternised:

Remarks: no data available

2-Mercaptoethanol:

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

2-(2-Butoxyethoxy)ethanol:

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

Phosphoric acid:

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

STOT - repeated exposure

Product:

Remarks: no data available

Components:

N-Methyl dialkanol amine and oleic fatty acid diacid copolymer, methyl quaternised:

Remarks: no data available

2-Mercaptoethanol:

Target Organs: Liver, Heart
Assessment: The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

2-(2-Butoxyethoxy)ethanol:

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

Phosphoric acid:

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-Mercaptoethanol:

Species: Rat, male and female
NOAEL: 15 mg/kg
Application Route: oral (gavage)
Method: OECD Test Guideline 422
GLP: yes

Repeated dose toxicity - Assessment : Toxic if swallowed., Fatal in contact with skin., Toxic if inhaled., Causes skin irritation., Causes serious eye damage.

2-(2-Butoxyethoxy)ethanol:

Species: Rat, male and female
NOAEL: 250 mg/kg
Application Route: Drinking water
Exposure time: 90 d
Number of exposures: continuously
Dose: 50 - 250 - 1000 mg/kg
Group: yes
Method: OECD Test Guideline 408
GLP: yes

Species: Rat, male and female
NOAEL: 0.094 mg/l
Application Route: Inhalation
Exposure time: 90 d
Number of exposures: 6 hours/day
Dose: 13 - 40 - 94 mg/m3
Group: yes
Method: OECD Test Guideline 413
GLP: yes

Species: Rat, male and female
NOAEL: > 2,000 mg/kg
Application Route: Skin contact
Exposure time: 13 w
Number of exposures: 6 hours/day, 5 days/week
Dose: 200 - 600 - 2000 mg/kg
Group: yes
Method: OECD Test Guideline 411
GLP: No information available.

Phosphoric acid:

Species: Rat, male and female
NOAEL: 250 mg/kg
Application Route: oral (gavage)
Exposure time: 42 d (m), 54 d (fem)
Number of exposures: daily
Dose: 125 - 250 - 500 mg/kg

Group: yes
Method: OECD Test Guideline 422
GLP: yes

Application Route: Inhalation
Method: Chronic inhalation toxicity
Remarks: not tested.

Application Route: Dermal
Method: Repeated dose toxicity
Remarks: not tested.

Aspiration toxicity

Product:

no data available

Components:

N-Methyl dialkanol amine and oleic fatty acid diacid copolymer, methyl quaternised:
no data available

2-Mercaptoethanol:
no data available

2-(2-Butoxyethoxy)ethanol:
No aspiration toxicity classification

Phosphoric acid:
No aspiration toxicity classification

Experience with human exposure

Product:

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

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 :

Remarks: no data available

Toxicity to microorganisms : Remarks: no data available

Components:

N-Methyl dialkanol amine and oleic fatty acid diacid copolymer, methyl quaternised:

Toxicity to fish : LC50 (Cyprinodon variegatus (sheepshead minnow)): > 1 - 10 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : LC50 (Acartia tonsa): > 10 - 100 mg/l
Exposure time: 48 h

Toxicity to algae : EC50 (Skeletonema costatum (marine diatom)): > 1 - 10 mg/l
Exposure time: 72 h

2-Mercaptoethanol:

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 37 mg/l
Exposure time: 96 h
Test Type: static test
Method: Other

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.4 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202

Toxicity to algae : EC50 (Desmodesmus subspicatus (green algae)): 19 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
GLP: yes

M-Factor (Acute aquatic toxicity) : 1

Toxicity to fish (Chronic toxicity) : Remarks: no data available

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): > 0.063 mg/l
Exposure time: 21 d
Test Type: semi-static test
Method: OECD Test Guideline 211

M-Factor (Chronic aquatic toxicity) : 1

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

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

2-(2-Butoxyethoxy)ethanol:

Toxicity to fish	:	LC50 (Lepomis macrochirus (Bluegill sunfish)): 1,300 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: no data available Method: OECD Test Guideline 203 GLP: no Remarks: The details of the toxic effect relate to the nominal concentration.
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Test Type: static test Analytical monitoring: no Method: Directive 67/548/EEC, Annex V, C.2. GLP: yes Remarks: The details of the toxic effect relate to the nominal concentration.
Toxicity to algae	:	EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l End point: Growth rate Exposure time: 96 h Test Type: static test Analytical monitoring: no Method: OECD Test Guideline 201 GLP: yes Remarks: The details of the toxic effect relate to the nominal concentration.
Toxicity to fish (Chronic toxicity)	:	Remarks: not required
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	Remarks: not required
Toxicity to microorganisms	:	EC10 (activated sludge, industrial): > 1,995 mg/l End point: Bacteria toxicity (respiration inhibition) Exposure time: 0.5 h Test Type: aquatic Analytical monitoring: no Method: OECD Test Guideline 209 GLP: no Remarks: The details of the toxic effect relate to the nominal concentration.
Toxicity to soil dwelling organisms	:	Remarks: Not applicable
Plant toxicity	:	Remarks: Not applicable
Sediment toxicity	:	Remarks: Not applicable

Toxicity to terrestrial organisms	:	Remarks: Not applicable

Phosphoric acid:

Toxicity to fish	:	LD50 (Lepomis macrochirus (Bluegill sunfish)): pH 3-3,3 Exposure time: 96 h Test Type: Other Analytical monitoring: no Method: Other GLP: no data available Remarks: Harmful effect caused by pH shift.
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 202 GLP: yes Remarks: The details of the toxic effect relate to the nominal concentration. NOEC (Daphnia magna (Water flea)): 56 mg/l Exposure time: 48 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 202 GLP: yes Remarks: The details of the toxic effect relate to the nominal concentration.
Toxicity to algae	:	EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l End point: Growth rate Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: yes Remarks: The details of the toxic effect relate to the nominal concentration. NOEC (Desmodesmus subspicatus (green algae)): 100 mg/l End point: Growth rate Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: yes Remarks: The details of the toxic effect relate to the nominal concentration.
Toxicity to fish (Chronic toxicity)	:	Remarks: not required

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	Remarks: not required
Toxicity to microorganisms	:	Test Type: aquatic GLP: Remarks: not required Harmful effect caused by pH shift. Test Type: Soil GLP: Remarks: Not applicable
Toxicity to soil dwelling organisms	:	Remarks: Not applicable
Plant toxicity	:	Remarks: Not applicable
Sediment toxicity	:	Remarks: Not applicable
Toxicity to terrestrial organisms	:	Remarks: Not applicable

Persistence and degradability

Product:

Biodegradability	:	Remarks: Not applicable

Components:

N-Methyl dialkanol amine and oleic fatty acid diacid copolymer, methyl quaternised:

Biodegradability	:	Result: Readily biodegradable. Method: OECD Test Guideline 306

2-Mercaptoethanol:

Biodegradability	:	aerobic Inoculum: activated sludge Concentration: 20 mg/l Result: Biodegradable Biodegradation: 69 % Exposure time: 60 d Method: OECD Test Guideline 310 GLP: yes

2-(2-Butoxyethoxy)ethanol:

Biodegradability	:	aerobic Inoculum: activated sludge, domestic, non-adapted Concentration: 100 mg/l BOD in % of theoretical OD Result: Readily biodegradable.

Biodegradation: ca. 85 %
Exposure time: 28 d
Method: OECD Test Guideline 301C
GLP: no

Physico-chemical removability : Remarks: Biodegradable

Phosphoric acid:

Biodegradability : Remarks: Not applicable for inorganic compound.

Physico-chemical removability : Remarks: Can be eliminated from water by precipitation. Can be eliminated from water by flocculation.

Stability in water : Remarks: Not applicable

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: not tested.

Components:

N-Methyl dialkanol amine and oleic fatty acid diacid copolymer, methyl quaternised:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

2-(2-Butoxyethoxy)ethanol:

Bioaccumulation : Remarks: Due to the low logPow bioaccumulation is not expected

Phosphoric acid:

Bioaccumulation : Remarks: Does not bioaccumulate.
Not relevant for inorganic substances

Partition coefficient: n-octanol/water : Remarks: Not applicable
inorganic

Mobility in soil

Product:

Distribution among environmental compartments : Remarks: not tested.

Components:

2-(2-Butoxyethoxy)ethanol:

Distribution among environmental compartments : Remarks: Not applicable

Phosphoric acid:

Distribution among environmental compartments	:	adsorption Remarks: Not applicable desorption Remarks: Not applicable

Other adverse effects

Product:

Results of PBT and vPvB assessment	:	Remarks: no data available
Additional ecological information	:	no data available

Components:

N-Methyl dialkanol amine and oleic fatty acid diacid copolymer, methyl quaternised:

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

2-(2-Butoxyethoxy)ethanol:

Environmental fate and pathways	:	not available
Results of PBT and vPvB assessment	:	This substance is not considered to be persistent, bioaccumulating and toxic (PBT).
Additional ecological information	:	Do not allow to enter ground water, waterways or waste water.

Phosphoric acid:

Environmental fate and pathways	:	not available
Results of PBT and vPvB assessment	:	The substance is not identified as a PBT or as a vPvB substance. Remarks: Not relevant for inorganic substances
Additional ecological information	:	If it is not neutralised, observe pH value Product must not be released into water without pre-treatment. Do not allow to enter ground water, waterways or waste water undiluted or in large quantities. May contribute to eutrophication in static waters, therefore should not be released into surface waters Can be eliminated from water by flocculation.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

RCRA - Resource Conservation and Recovery Authorization Act	:	No -- Not as sold.
Waste Code	:	none
Waste from residues	:	Dispose of this product in accordance with all applicable local, state and federal regulations.
Contaminated packaging	:	Packaging that cannot be cleaned should be disposed of as product waste

SECTION 14. TRANSPORT INFORMATION

DOT Regulation:

Proper shipping name:	Corrosive liquids, n.o.s.
Hazard class:	8
Packing group:	II
UN/NA-number:	UN 1760
Primary hazard class:	8
Technical Name:	2-(2-Heptadecyl-2-imidazoline-1-yl)ethanol

IATA

Proper shipping name:	Corrosive liquid, n.o.s.
Class:	8
Packing group:	II
UN/ID number:	UN 1760
Primary risk:	8
Remarks:	Shipment permitted
Hazard inducer(s):	2-(2-Heptadecyl-2-imidazoline-1-yl)ethanol

IMDG

Proper shipping name:	Corrosive liquid, n.o.s.
Class:	8
Packing group:	II
UN no.:	UN 1760
Primary risk:	8
Hazard inducer(s):	2-(2-Heptadecyl-2-imidazoline-1-yl)ethanol
EmS:	F-A S-B

SECTION 15. REGULATORY INFORMATION

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

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ	Calculated product RQ

		(lbs)	(lbs)
Phosphoric acid	7664-38-2	5000	*

*: Calculated RQ exceeds reasonably attainable upper limit.

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 : Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitisation
Specific target organ toxicity (single or repeated exposure)

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

Phosphoric acid 7664-38-2 1 - 5 %

Clean Water Act

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

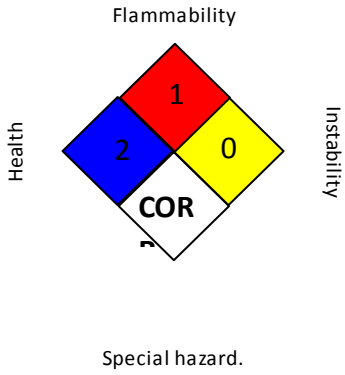
The components of this product are reported in the following inventories:

TSCA : All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

SECTION 16. OTHER INFORMATION

Further information

NFPA:



Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)

NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
OSHA P0	:	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
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

AICS - Australian Inventory of Chemical Substances; 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; 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

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