Substance key: 000000151064	Revision Date: 03/12/2019
Version : 1 - 4 / USA	Date of printing :04/15/2021

SECTION 1. IDENTIFICATION

Identification of the company:	Clariant Produkte (Deutschland) GmbH Frankfurt am Main, 65926 Telephone No.: +49 69 305 18000 **Information of the substance/preparation:** Product Stewardship, +1-704-331-7710 **Emergency tel. number:** +1 800-424-9300 CHEMTREC

Trade name:	**TRIETHYLENEGLYCOL (TEG)**
Material number:	174306
CAS number:	112-27-6
Primary product use:	Anti-freezing agents Water treatment chemical Dewatering agent
Chemical family:	1,2-di-(2-hydroxy ethoxy)-ethane

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Eye irritation	:	Category 2B
Germ cell mutagenicity	:	Category 2
Specific target organ toxicity - single exposure	:	Category 3 (Central nervous system)

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements :
H320 Causes eye irritation.
H336 May cause drowsiness or dizziness.
H341 Suspected of causing genetic defects.

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.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
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.
P337 + P313 If eye irritation persists: Get medical advice/ attention.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
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 : Substance

Substance name : 1,2-di-(2-hydroxy ethoxy)-ethane

CAS-No. : 112-27-6

Components

Chemical name	CAS-No.	Concentration (% w/w)
Triethylene glycol	112-27-6	60 - 100
Triethylene glycol	112-27-6	<= 100

Contains no hazardous ingredients according to GHS
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.

If inhaled : Move the victim to fresh air.
If symptoms persist, call a physician.

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	:	Remove contaminated clothing and shoes. Wash with plenty of soap and water. If skin irritation occurs, seek medical advice/attention. Wash thoroughly with soap and water for 15 minutes. If skin irritation occurs, seek medical attention.
In case of eye contact	:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If symptoms persist, call a physician. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed	:	Rinse mouth with water. Drink water as a precaution. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Obtain medical attention. Get medical attention immediately. Do NOT induce vomiting.
Most important symptoms and effects, both acute and delayed	:	The following symptoms may occur: Gastrointestinal discomfort irritant effects Dizziness Headache Abdominal pain
Notes to physician	:	Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Dry powder Carbon dioxide (CO2) Alcohol-resistant foam Water mist
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during firefighting	:	In case of fire hazardous decomposition products may be produced such as: Carbon oxides

Further information	:	Cool containers/tanks with water spray. Wear full protective clothing and self-contained breathing apparatus.
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus and protective suit.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Avoid inhalation, ingestion and contact with skin and eyes. Contain spill. Ensure adequate ventilation and wear appropriate personal protective equipment. Collect onto inert absorbent. Place in sealable container. Do not allow to contaminate water sources or sewers.
Environmental precautions	:	Prevent product from entering drains.
Methods and materials for containment and cleaning up	:	Wear suitable protective clothing. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Dispose of in accordance with local regulations. Flush with plenty of water.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	Provide adequate ventilation. Avoid inhalation, ingestion and contact with skin and eyes. Use only with adequate ventilation and proper protective eyewear, gloves, and clothing. Wash thoroughly after handling. Keep container closed.
Conditions for safe storage	:	Keep containers tightly closed in a cool, well-ventilated place.
Further information on storage conditions	:	Keep containers tightly closed in a dry, cool and well-ventilated place. Store in a cool, dry location away from heat, sparks and open flames. Store in original container. Keep container tightly closed.
Materials to avoid	:	Strong oxidizing agents

Further information on storage stability	:	Shelf life is limited; see product information leaflet

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures : Local ventilation recommended - mechanical ventilation may be used.

Personal protective equipment

Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment.
Full mask with combination filter A2/P3.

If airborne concentrations pose a health hazard, become irritating, or exceed recommended limits, use a NIOSH approved respirator in accordance with OSHA respiratory protection requirements under 29CFR1910.134.

Hand protection
Remarks : Wear protective gloves. Neoprene gloves Viton (R) Nitrile rubber PVC Breakthrough time is not determined for the product. Change gloves often!

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

Eye protection : Tightly fitting safety goggles

Skin and body protection : Wear suitable protective clothing.
Wear suitable protective equipment.

Protective measures : Avoid contact with skin and eyes.

Hygiene measures : Keep away from food and drink.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid
Colour	:	colourless
Odour	:	odourless
pH	:	5 - 8 (68 °F / 20 °C) Concentration: 50 %

		(as aqueous solution)
Melting point	:	24.3 °F / -4.3 °C Method: DIN 51583
Boiling point	:	545 - 563 °F / 285 - 295 °C Method: DIN 53171
Flash point	:	329 °F / 165 °C Method: DIN 51758
Flammability (solid, gas)	:	Not applicable
Self-ignition	:	not tested.
Upper explosion limit / upper flammability limit	:	9.2 %(V)
Lower explosion limit / Lower flammability limit	:	0.9 %(V)
Vapour pressure	:	< 0.01 mbar (68 °F / 20 °C)
Relative density	:	1.11 - 1.13
Solubility(ies) Water solubility	: :	 completely soluble (68 °F / 20 °C)
Auto-ignition temperature	:	approx. 698 °F / 370 °C Method: DIN 51794
Decomposition temperature	:	At normal pressure may be distilled without decomposition.
Viscosity Viscosity, dynamic	: :	 < 150 mPa.s (41 °F / 5 °C) Method: DIN 51562

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	Keep away from heat. Keep away from heat. Keep away from open flames, hot surfaces and sources of ignition.
Incompatible materials	:	Strong oxidizing agents

Strong acids and strong bases

Hazardous decomposition products : In case of fire hazardous decomposition products may be produced such as:
Carbon oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Eye contact
Skin contact
Inhalation
Ingestion
Skin Absorption

Acute toxicity

Product:

Acute oral toxicity : LD50 (Rat): > 15,000 mg/kg

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

Components:

Triethylene glycol:

Acute oral toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Method: Other

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.2 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Other

Acute dermal toxicity : LD50 (Rabbit, male and female): Method: Other
Remarks: No adverse effect has been observed in acute toxicity tests.

Triethylene glycol:

Acute oral toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Method: Other

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.2 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Other

Acute dermal toxicity : LD50 (Rabbit, male and female): Method: Other
Remarks: No adverse effect has been observed in acute toxicity tests.

Skin corrosion/irritation

Product:

Species: Rabbit
Result: slight irritation

Components:

Triethylene glycol:

Species: Rabbit
Method: Draize Test
Result: No skin irritation

Triethylene glycol:

Species: Rabbit
Method: Draize Test
Result: No skin irritation

Serious eye damage/eye irritation

Product:

Species: rabbit eye
Result: slight irritation

Components:

Triethylene glycol:

Species: Rabbit
Result: No eye irritation
Method: Draize Test

Triethylene glycol:

Species: Rabbit
Result: No eye irritation
Method: Draize Test

Respiratory or skin sensitisation

Product:

Test Type: Patch Test 24 Hrs.
Species: Humans
Method: Other
Result: Not a skin sensitizer.

Components:

Triethylene glycol:

Test Type: Patch Test 24 Hrs.
Species: Humans
Method: Other

Result: Not a skin sensitizer.

Triethylene glycol:

Test Type: Patch Test 24 Hrs.
Species: Humans
Method: Other
Result: Not a skin sensitizer.

Germ cell mutagenicity

Product:

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: sister chromatid exchange assay
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 479
Result: negative

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

Germ cell mutagenicity - Assessment : Not mutagenic in Ames Test

Components:

Triethylene glycol:

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: sister chromatid exchange assay
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 479
Result: negative

Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary cells
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

Triethylene glycol:

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: sister chromatid exchange assay
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 479
Result: negative

Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary cells
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

Carcinogenicity

Product:

Species: Rat, (male and female)
Application Route: Oral
Exposure time: 108 w
NOAEL: 1,210 mg/kg body weight
Method: Other
Remarks: By analogy with a product of similar composition

Components:

Triethylene glycol:

Species: Rat, (male and female)
Application Route: Oral
Exposure time: 108 w
NOAEL: 1,210 mg/kg body weight
Method: Other
Remarks: By analogy with a product of similar composition

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

Triethylene glycol:

Species: Rat, (male and female)

Application Route: Oral
Exposure time: 108 w
NOAEL: 1,210 mg/kg body weight
Method: Other
Remarks: By analogy with a product of similar composition

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

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:

Effects on foetal development : Species: Rat
Strain: Sprague-Dawley
Application Route: Oral
Dose: 0.0, 1.0, 5.0, 10.0 ml/kg/day
General Toxicity Maternal: NOEL: 1
Developmental Toxicity: NOEL: 5
Method: Other
Remarks: By analogy with a product of similar composition

Components:

Triethylene glycol:

Effects on foetal development : Species: Rat
Strain: Sprague-Dawley
Application Route: Oral
Dose: 0.0, 1.0, 5.0, 10.0 ml/kg/day
General Toxicity Maternal: NOEL: 1
Developmental Toxicity: NOEL: 5
Method: Other
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.

Triethylene glycol:

Effects on foetal development : Species: Rat
Strain: Sprague-Dawley
Application Route: Oral
Dose: 0.0, 1.0, 5.0, 10.0 ml/kg/day

General Toxicity Maternal: NOEL: 1
Developmental Toxicity: NOEL: 5
Method: Other
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.

STOT - single exposure

Product:

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

Components:

Triethylene glycol:

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

Triethylene glycol:

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

STOT - repeated exposure

Product:

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

Components:

Triethylene glycol:

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

Triethylene glycol:

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

Repeated dose toxicity

Product:

Species: Rat, male and female
NOAEL: 1522 - 1699 mg/kg bw/day
Application Route: Oral
Exposure time: 13 w
Method: OECD Test Guideline 408

Components:

Triethylene glycol:

Species: Rat, male and female
NOAEL: 1522 - 1699 mg/kg bw/day
Application Route: Oral
Exposure time: 13 w
Method: OECD Test Guideline 408

Triethylene glycol:

Species: Rat, male and female
NOAEL: 1522 - 1699 mg/kg bw/day
Application Route: Oral
Exposure time: 13 w
Method: OECD Test Guideline 408

Aspiration toxicity

Product:

no data available

Components:

Triethylene glycol:

no data available

Triethylene glycol:

no data available

Experience with human exposure

Product:

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

Further information

Product:

Remarks: May cause headache and dizziness.
May cause eye and skin irritation.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): > 10 g/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 10 g/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	EC50 (Selenastrum capricornutum (green algae)): Remarks: not tested.
Toxicity to fish (Chronic toxicity)	:	NOEC (Pimephales promelas (fathead minnow)): 15,380 mg/l Exposure time: 7 d Test Type: semi-static test Method: Other
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): > 15,000 mg/l Exposure time: 21 d Test Type: static test Method: Other
Toxicity to microorganisms	:	EC50 (Photobacterium phosphoreum): > 10 g/l

Components:

Triethylene glycol:

Toxicity to fish	:	LC50 (Lepomis macrochirus (Bluegill sunfish)): > 10,000 mg/l End point: mortality Test Type: static test Method: Other
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 10,000 mg/l Exposure time: 48 h Test Type: static test Method: DIN 38412
Toxicity to algae/aquatic plants	:	NOEC (Pseudokirchneriella subcapitata (algae)): > 100 mg/l End point: Growth rate Exposure time: 72 h Test Type: static test Method: OECD Test Guideline 201 Remarks: By analogy with a product of similar composition
Toxicity to fish (Chronic toxicity)	:	NOEC (Pimephales promelas (fathead minnow)): 15,380 mg/l Exposure time: 7 d Test Type: semi-static test Method: Other
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): > 15,000 mg/l Exposure time: 21 d Test Type: static test Method: Other
Toxicity to microorganisms	:	(activated sludge): > 1,995 mg/l Exposure time: 30 min Test Type: static test Method: Other

Triethylene glycol:

Toxicity to fish	:	LC50 (Lepomis macrochirus (Bluegill sunfish)): > 10,000 mg/l End point: mortality Test Type: static test Method: Other
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 10,000 mg/l Exposure time: 48 h Test Type: static test Method: DIN 38412
Toxicity to algae/aquatic plants	:	NOEC (Pseudokirchneriella subcapitata (algae)): > 100 mg/l End point: Growth rate Exposure time: 72 h Test Type: static test Method: OECD Test Guideline 201 Remarks: By analogy with a product of similar composition
Toxicity to fish (Chronic toxicity)	:	NOEC (Pimephales promelas (fathead minnow)): 15,380 mg/l Exposure time: 7 d Test Type: semi-static test Method: Other
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): > 15,000 mg/l Exposure time: 21 d Test Type: static test Method: Other
Toxicity to microorganisms	:	(activated sludge): > 1,995 mg/l Exposure time: 30 min Test Type: static test Method: Other

Persistence and degradability

Product:

Biodegradability	:	Result: Readily biodegradable. Method: OECD Test Guideline 302B
Chemical Oxygen Demand (COD)	:	1,520 mg/g

Components:

Triethylene glycol:

Biodegradability	:	Inoculum: activated sludge Dissolved organic carbon (DOC) Result: Readily biodegradable. Biodegradation: 90 - 100 % Exposure time: 10 d Method: OECD Test Guideline 301A Remarks: By analogy with a product of similar composition

Triethylene glycol:

Biodegradability : Inoculum: activated sludge
Dissolved organic carbon (DOC)
Result: Readily biodegradable.
Biodegradation: 90 - 100 %
Exposure time: 10 d
Method: OECD Test Guideline 301A
Remarks: By analogy with a product of similar composition

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: According to the criteria of EU Directives/Regulations, the substance is not considerer to be bioaccumulative.

Components:

Triethylene glycol:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Triethylene glycol:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Mobility in soil

Product:

Distribution among environmental compartments : Adsorption/Soil
log Koc: 1
Method: estimated

Components:

Triethylene glycol:

Distribution among environmental compartments : Adsorption/Soil
log Koc: 1
Method: estimated

Triethylene glycol:

Distribution among environmental compartments : Adsorption/Soil
log Koc: 1
Method: estimated

Other adverse effects

Product:

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

Additional ecological : The substance does not meet the criteria for PBT or vPvB

information substance.
This product has no known ecotoxicological effects.

Components:

Triethylene glycol:

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

Triethylene glycol:

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

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

RCRA - Resource Conservation and Recovery Authorization Act : No -- Not as sold.

Waste from residues : Dispose of in accordance with the European Directives on waste and hazardous waste.

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 not restricted

IATA not restricted

IMDG not restricted

SECTION 15. REGULATORY INFORMATION

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

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 311/312 Hazards : Specific target organ toxicity (single or repeated exposure)
Serious eye damage or eye irritation
Germ cell mutagenicity

SARA 313 : This product does not contain any toxic chemical listed under the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986. Note: Under normal usage conditions, the active components of this product may hydrolyze to release ethylene glycol.

Clean Water Act

This product is not a Clean Water Act priority pollutant.

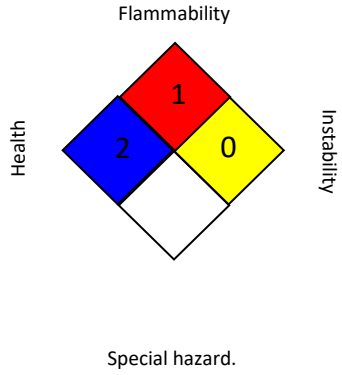
The components of this product are reported in the following inventories:

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

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

Observe national and local legal requirements
Do not breathe vapour.
Ensure adequate ventilation.
Do not get in eyes.
Do not get on skin.
Do not swallow.
When using do not eat, drink or smoke.

Revision Date : 03/12/2019

US / EN