Substance key: 000000677708	Revision Date: 04/21/2020
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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 15190**
Material number: 302778

Primary product use: Industrial use

Chemical family: Corrosion Inhibitor

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Flammable liquids	:	Category 2
Acute toxicity (Oral)	:	Category 3
Acute toxicity (Inhalation)	:	Category 3
Acute toxicity (Dermal)	:	Category 3
Skin corrosion	:	Category 1B
Serious eye damage	:	Category 1
Skin sensitisation	:	Category 1
Reproductive toxicity	:	Category 2
Specific target organ toxicity - single exposure	:	Category 1 (Eyes, Central nervous system)
Specific target organ toxicity - repeated exposure (Oral)	:	Category 2 (Kidney)

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H225 Highly flammable liquid and vapour.
H301 + H311 + H331 Toxic if swallowed, in contact with skin or if inhaled.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H361 Suspected of damaging fertility or the unborn child.
H370 Causes damage to organs (Eyes, Central nervous system).
H373 May cause damage to organs (Kidney) through prolonged or repeated exposure if swallowed.

Precautionary statements :

Prevention:

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
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.
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.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. 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.
P307 + P311 IF exposed: Call a POISON CENTER or doctor/ physician.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
Methanol	67-56-1	70 - 90
Ethanediol	107-21-1	1 - 5
hydrocarbon mixture rich in aromatics	64742-95-6	1 - 5
Proprietary ingredient 7314	Not Assigned	1 - 5
Proprietary ingredient 3315	Not Assigned	1 - 5
Coco dimethyl benzyl ammonium chloride	61789-71-7	1 - 5
Proprietary ingredient 8134	Not Assigned	1 - 5
1,2,4-Trimethylbenzene	95-63-6	1 - 5
Proprietary ingredient 1562	Not Assigned	1 - 5
2-Mercaptoethanol	60-24-2	0.1 - 1
Ethanol	64-17-5	0.1 - 1

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 off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if irritation develops and persists. Wash contaminated clothing before reuse.
In case of eye contact	:	Do not wear contact lenses. 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. Call your local Poison Control Center (In the U.S. call 1-800-222-1222).
Most important symptoms and effects, both acute and delayed	:	The possible symptoms known are those derived from the labelling (see section 2). corrosive effects irritant effects
Notes to physician	:	Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Water mist Dry chemical Carbon dioxide (CO2) Alcohol-resistant foam
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 Nitrogen oxides (NOx) Phosphorus oxides (eg Phosphorus pentoxide) Formaldehyde Flammable gases/vapours
Further information	:	In the event of fire and/or explosion do not breathe fumes. Emits toxic and corrosive fumes under fire conditions. 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.
Cool containers/tanks with water spray.

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.
Remove all spark producing devices or ignition sources. Wear proper personnel protective equipment. Using non-sparking tools collect as a liquid for recycling/disposal or absorb onto a suitable absorbant and secure in a suitable container. Collect any contaminated soils or cleaning waste in a suitable container for proper disposal.
Absorbent materials such as dry sand, absorbent booms, and vermiculite may be used to keep material from entering drains, sewers, or streams.

Environmental precautions : The product should not be allowed to enter drains, water courses or the soil.

Methods and materials for containment and cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).
Clean contaminated surface thoroughly.
Incineration in suitable incineration plant, observing local authority regulations
Take measures to prevent the build up of electrostatic charge.
Dispose of in accordance with local regulations.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion : Keep away sources of ignition.
Take precautionary measures against build-up of electrostatic charges, e.g earthing during loading and off-loading operations.

Advice on safe handling : Handle in accordance with good industrial hygiene and safety practice.
Use only with adequate ventilation/personal protection.
For personal protection see section 8.
Avoid contact with skin, eyes and clothing.
Keep away from sources of ignition - No smoking.
Keep tightly closed in a dry, cool and well-ventilated place.

Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.
Wash thoroughly after handling.
Incompatible with oxidizing agents.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Methanol	67-56-1	TWA	200 ppm	ACGIH
		STEL	250 ppm	ACGIH
		TWA	200 ppm 260 mg/m3	NIOSH REL
		ST	250 ppm 325 mg/m3	NIOSH REL
		TWA	200 ppm 260 mg/m3	OSHA Z-1
		STEL	250 ppm 325 mg/m3	OSHA P0
		TWA	200 ppm 260 mg/m3	OSHA P0
Ethanediol	107-21-1	C	50 ppm 125 mg/m3	OSHA P0
		TWA (Vapour)	25 ppm	ACGIH
		STEL (Vapour)	50 ppm	ACGIH
		STEL (Inhalable fraction, Aerosol only)	10 mg/m3	ACGIH
hydrocarbon mixture rich in aromatics	64742-95-6	TWA	500 ppm 2,000 mg/m3	OSHA Z-1
		TWA	400 ppm 1,600 mg/m3	OSHA P0
1,2,4-Trimethylbenzene	95-63-6	TWA	25 ppm 125 mg/m3	NIOSH REL
2-Mercaptoethanol	60-24-2	TWA	0.2 ppm	US WEEL
Ethanol	64-17-5	STEL	1,000 ppm	ACGIH
		TWA	1,000 ppm 1,900 mg/m3	NIOSH REL
		TWA	1,000 ppm 1,900 mg/m3	OSHA Z-1
		TWA	1,000 ppm 1,900 mg/m3	OSHA P0
Methanol	67-56-1	TWA	200 ppm	ACGIH
		STEL	250 ppm	ACGIH

		TWA	200 ppm 260 mg/m3	NIOSH REL
		ST	250 ppm 325 mg/m3	NIOSH REL
		TWA	200 ppm 260 mg/m3	OSHA Z-1
		STEL	250 ppm 325 mg/m3	OSHA P0
		TWA	200 ppm 260 mg/m3	OSHA P0
Ethanediol	107-21-1	C	50 ppm 125 mg/m3	OSHA P0
		TWA (Vapour)	25 ppm	ACGIH
		STEL (Vapour)	50 ppm	ACGIH
		STEL (Inhalable fraction, Aerosol only)	10 mg/m3	ACGIH
hydrocarbon mixture rich in aromatics	64742-95-6	TWA	500 ppm 2,000 mg/m3	OSHA Z-1
		TWA	400 ppm 1,600 mg/m3	OSHA P0
1,2,4-Trimethylbenzene	95-63-6	TWA	25 ppm 125 mg/m3	NIOSH REL
2-Mercaptoethanol	60-24-2	TWA	0.2 ppm	US WEEL
Ethanol	64-17-5	STEL	1,000 ppm	ACGIH
		TWA	1,000 ppm 1,900 mg/m3	NIOSH REL
		TWA	1,000 ppm 1,900 mg/m3	OSHA Z-1
		TWA	1,000 ppm 1,900 mg/m3	OSHA P0

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
Methanol	67-56-1	Methanol	Urine	End of shift (As soon as possible after exposure ceases)	15 mg/l	ACGIH BEI

Engineering measures : Use only in area provided with appropriate exhaust ventilation.
Provide appropriate exhaust ventilation at machinery and at places where dust can be generated.
Use engineering controls such as local or general exhaust to

maintain airborne concentrations below exposure limits.

Personal protective equipment

Respiratory protection	:	In case of inadequate ventilation wear respiratory protection.
Hand protection Material	:	butyl-rubber
Eye protection	:	Wear safety glasses with side shelds, chemical splash goggles, and /or full face shield to prevent contact with eyes.
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. Take off immediately all contaminated clothing and wash it before reuse. Ensure that eyewash stations and safety showers are close to the workstation location.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	clear, amber
Odour	:	characteristic
Odour Threshold	:	no data available
pH	:	Not applicable
Solidification point	:	< -40 °F / < -40 °C Data relate to solvent
Boiling point	:	149 °F / 65 °C Data relate to solvent
Flash point	:	< 73 °F / < 23 °C
Evaporation rate	:	2.6 The data refer to the solvent
Self-ignition	:	no data available

Upper explosion limit / upper flammability limit	:	36.6 %(V) Data relate to solvent
Lower explosion limit / Lower flammability limit	:	6 %(V) Data relate to solvent
Vapour pressure	:	13.3 kPa Data relate to solvent
Relative vapour density	:	no data available
Density	:	0.82 - 0.86 g/cm3 (68 °F / 20 °C)
Solubility(ies)		
Water solubility	:	partly soluble
Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	563 °F / 295 °C Data relate to solvent
Decomposition temperature	:	Not applicable
Viscosity		
Viscosity, dynamic	:	< 10 mPa.s (68 °F / 20 °C)
Explosive properties	:	no data available

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 and sources of ignition.
Incompatible materials	:	Incompatible with oxidizing agents. Strong acids and strong bases
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
Ingestion
Inhalation

Acute toxicity

Product:

Acute oral toxicity	:	Acute toxicity estimate: 128.9 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate: 3.93 mg/l Exposure time: 4 h Test atmosphere: vapour Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate: 369.88 mg/kg Method: Calculation method

Components:

Methanol:

Acute oral toxicity	:	LD50 (Rat, male and female): 1,187 - 2,769 mg/kg Method: Other GLP: no Assessment: The component/mixture is toxic after single ingestion.
Acute inhalation toxicity	:	LC50 (Rat, male and female): 87.5 mg/l Exposure time: 6 h Test atmosphere: vapour Method: Other GLP: no Assessment: The component/mixture is toxic after short term inhalation.
Acute dermal toxicity	:	Assessment: The component/mixture is toxic after single contact with skin.

Ethanediol:

Acute oral toxicity	:	LD50 (Rat, male and female): Method: Other GLP: no Assessment: The component/mixture is moderately toxic after single ingestion.
Acute inhalation toxicity	:	LC50 (Rat, male and female): > 2.5 mg/l Exposure time: 6 h Test atmosphere: dust/mist

Method: Other
GLP: yes

Acute dermal toxicity : LD50 (Mouse, male and female): > 3,500 mg/kg
Method: Other
GLP: yes
Assessment: The substance or mixture has no acute dermal toxicity

hydrocarbon mixture rich in aromatics:

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 401
GLP: yes
Remarks: By analogy with a product of similar composition

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.61 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
GLP: yes
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: By analogy with a product of similar composition

Acute dermal toxicity : LD50 (Rabbit, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 402
GLP: yes
Remarks: By analogy with a product of similar composition

Coco dimethyl benzyl ammonium chloride:

Acute oral toxicity : Assessment: The component/mixture is moderately toxic after single ingestion.

Acute dermal toxicity : Assessment: The component/mixture is moderately toxic after single contact with skin.

Proprietary ingredient 8134:

Acute inhalation toxicity : Remarks: no data available

Acute dermal toxicity : LD50 (Rat, male and female): > 1,000 mg/kg
Method: OECD Test Guideline 402
GLP: yes
Assessment: The substance or mixture has no acute dermal toxicity

1,2,4-Trimethylbenzene:

Acute oral toxicity : LD50 (Rat): 6,000 mg/kg
Method: Other

Acute inhalation toxicity : LC50 (Rat): 18000 mg/m³
Exposure time: 4 h
Test atmosphere: gas
Assessment: The component/mixture is moderately toxic after short term inhalation.

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
Assessment: The component/mixture is toxic after short term inhalation.

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

Ethanol:

Acute oral toxicity : LD50 (Rat, male and female): 10,470 mg/kg
Method: OECD Test Guideline 401
GLP: no

Acute inhalation toxicity : LC50 (Rat, male and female): 124.7 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403
GLP: no

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

Skin corrosion/irritation

Product:

Result: Causes burns.

Components:

Methanol:

Species: Rabbit
Exposure time: <= 20 h
Method: Other
Result: No skin irritation

GLP: no

Ethanediol:

Species: Rabbit
Exposure time: 20 h
Method: Other
Result: No skin irritation
GLP: no

hydrocarbon mixture rich in aromatics:

Species: Rabbit
Exposure time: 4 h
Method: OECD Test Guideline 404
Result: non-irritant
GLP: yes
Remarks: By analogy with a product of similar composition

Proprietary ingredient 7314:

Result: Irritating to skin.

Proprietary ingredient 3315:

Result: Irritating to skin.

Coco dimethyl benzyl ammonium chloride:

Result: Causes burns.

Proprietary ingredient 8134:

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

1,2,4-Trimethylbenzene:

Result: Skin irritation

Proprietary ingredient 1562:

Result: Irritating to skin.

2-Mercaptoethanol:

Species: Rabbit
Method: Other
Result: Skin irritation

Ethanol:

Species: Rabbit

Exposure time: 24 h
Method: OECD Test Guideline 404
Result: No skin irritation
GLP: yes

Serious eye damage/eye irritation

Product:

Result: Corrosive

Components:

Methanol:

Species: Rabbit
Result: No eye irritation
Method: Other
GLP: no

Ethanediol:

Species: Rabbit
Result: No eye irritation
Exposure time: 24 h
Method: Other
GLP: no

hydrocarbon mixture rich in aromatics:

Species: rabbit eye
Result: No eye irritation
Method: OECD Test Guideline 405
GLP: yes
Remarks: By analogy with a product of similar composition

Proprietary ingredient 7314:

Result: Irritating to eyes.

Proprietary ingredient 3315:

Result: Irritating to eyes.

Proprietary ingredient 8134:

Remarks: Extremely corrosive and destructive to tissue.

1,2,4-Trimethylbenzene:

Result: Irritating to eyes.

Proprietary ingredient 1562:

Result: Irritating to eyes.

2-Mercaptoethanol:

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

Ethanol:

Species: Rabbit
Result: Irritating to eyes.
Method: OECD Test Guideline 405
GLP: No information available.

Respiratory or skin sensitisation

Product:

Result: May cause sensitisation by skin contact.

Components:

Methanol:

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

Assessment: Toxic if swallowed, in contact with skin or if inhaled.

Ethanediol:

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

Assessment: Harmful if swallowed.

hydrocarbon mixture rich in aromatics:

Test Type: Buehler Test
Exposure routes: Dermal
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Does not cause skin sensitisation.
GLP: yes
Remarks: By analogy with a product of similar composition

Proprietary ingredient 8134:

Test Type: Buehler Test
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Not a skin sensitizer.

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

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.

Ethanol:

Exposure routes: Dermal
Species: Mouse
Method: Other
Result: Not a skin sensitizer.
GLP: No information available.

Germ cell mutagenicity

Components:

Methanol:

Genotoxicity in vitro : Test Type: Micronucleus test
Test system: Chinese hamster lung cells
Concentration: 40 mg/ml
Method: Other
Result: negative
GLP: No information available.

Test Type: HGPRT assay
Test system: Chinese hamster lung cells
Concentration: 15,8 - 63,3 mg/ml
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
GLP: No information available.

Test Type: In vitro gene mutation study in bacteria
Test system: Salmonella typhimurium
Concentration: 5 - 5000 µg/plate
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471

Result: negative
GLP: No information available.

Genotoxicity in vivo : Test Type: Chromosome Aberration Test
Species: Mouse (male)
Strain: C57BL/6 x DBA/2
Application Route: Inhalation
Exposure time: 5 d, 6 h/day
Dose: 1,04 - 5,3 mg/l
Method: Other
Result: negative
GLP: No information available.

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

Ethanediol:

Genotoxicity in vitro : Test Type: Ames test
Test system: Salmonella typhimurium
Concentration: 33 - 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: 33 - 5000 µg/plate
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: yes

Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Method: Other
Result: negative
GLP: yes

Test Type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
GLP: yes

Genotoxicity in vivo : Test Type: Dominant lethal assay
Species: Rat (male and female)
Strain: Fischer F344
Application Route: oral (feed)

Exposure time: 3 generation
Dose: 40 - 200 - 1000 mg/kg
Method: Other
Result: negative
GLP: no

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

hydrocarbon mixture rich in aromatics:

Genotoxicity in vitro : Test Type: Ames test
Test system: Salmonella typhimurium
Concentration: 0,001 - 5 µl/plate
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: No information available.
Remarks: By analogy with a product of similar composition

Test Type: In vitro gene mutation study in bacteria
Test system: mouse lymphoma cells
Concentration: 0,065 - 1,004 µl/ml
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
GLP: No information available.
Remarks: By analogy with a product of similar composition

Genotoxicity in vivo : Test Type: Chromosome Aberration Test
Species: Rat (male and female)
Strain: Sprague-Dawley
Cell type: Bone marrow
Application Route: Inhalation
Exposure time: 6 h/day, 5 d/week, 28 d
Dose: 2000-10000-20000 mg/m3
Method: OPPTS 870.5395
Result: negative
GLP: yes

Test Type: Micronucleus test
Species: Rat (male)
Strain: Sprague-Dawley
Cell type: Bone marrow
Application Route: Intraperitoneal injection
Exposure time: 1x per day, 5 d
Dose: 72 - 240 - 720 mg/kg
Method: OECD Test Guideline 475
Result: negative
GLP: No information available.
Test substance: other TS

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

Proprietary ingredient 8134:

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: Chromosome aberration test in vitro
Test system: mammalian cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
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

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

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

Ethanol:

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: No information available.

Test Type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
GLP: No information available.

Test Type: Chromosome aberration test in vitro
Test system: Human lymphocytes
Method: OECD Test Guideline 473
Result: negative
GLP: No information available.

Genotoxicity in vivo : Test Type: In vivo micronucleus test
Species: Rat (male)
Strain: Other
Cell type: Bone marrow
Application Route: Drinking water
Method: OECD Test Guideline 474
Result: negative
GLP: No information available.

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

Carcinogenicity

Components:

Methanol:

Species: Rat, (male and female)
Application Route: Inhalation
Exposure time: 24
Dose: 0,013 - 0,13 - 1,3 mg/l
Group: yes
Frequency of Treatment: 20 h/day
NOAEL: >= 1.3 mg/l
Method: OECD Test Guideline 453
GLP: No information available.

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

Ethanediol:

Species: Mouse, (male and female)
Application Route: oral (feed)
Exposure time: 2 a

Dose: 6250-12500-25000-50000 ppm
Group: yes
Frequency of Treatment: daily
NOAEL: 1,500 mg/kg bw/day
Method: Other
GLP: yes

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

hydrocarbon mixture rich in aromatics:

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

Proprietary ingredient 8134:

Species: Rat, (male and female)
Method: OECD Test Guideline 453
Result: negative
Remarks: No significant adverse effects were reported

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

2-Mercaptoethanol:

Carcinogenicity - Assessment : No information available.

Ethanol:

Species: Mouse, (female)
Application Route: Drinking water
Exposure time: 105 weeks
Dose: 0, 2.5 and 5% in drinking wate
Group: yes
4,400 mg/kg bw/day
Method: OPPTS 870.4200
GLP: yes

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

IARC	Group 1: Carcinogenic to humans	
	Ethanol	64-17-5
OSHA	Carcinogen	
	Ethanol	64-17-5
NTP	No component of this product present at levels greater than or	

equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Components:

Methanol:

Effects on fertility : Test Type: Two-generation study
Species: Rat, male and female
Strain: Sprague-Dawley
Application Route: Inhalation
Dose: 0,013 - 0,13 - 1,3 mg/l
Duration of Single Treatment: 20 h
General Toxicity - Parent: NOAEC: 1.3 mg/l
General Toxicity F1: NOAEC: 0.13 mg/l
General Toxicity F2: NOAEC: 0.13 mg/l
Method: OECD Test Guideline 416
GLP: No information available.

Effects on foetal development : Test Type: Pre-natal
Species: Rat, female
Strain: Sprague-Dawley
Application Route: Inhalation
Dose: 0,27 - 1,33 - 6,65 mg/l
Duration of Single Treatment: 22.7 h
General Toxicity Maternal: NOAEC: 1.33 mg/l
Teratogenicity: NOAEC F1: 1.33 mg/l
Method: OECD Test Guideline 414
GLP: No information available.

Test Type: Pre-natal
Species: Rat
Strain: Long-Evans
Application Route: oral (gavage)
Dose: 1027 - 2054 - 4108 mg/kg
Frequency of Treatment: 1
General Toxicity Maternal: LOAEL: 1,027 mg/kg body weight
Teratogenicity: LOAEL F1: 1,027 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.

Ethanediol:

Effects on fertility : Test Type: Three-generation study
Species: Rat, male and female
Strain: Fischer F344
Application Route: oral (feed)
Dose: 40 - 200 - 1000
General Toxicity - Parent: NOAEL: > 1,000 mg/kg body weight

General Toxicity F1: NOAEL: > 1,000 mg/kg body weight
General Toxicity F2: NOAEL: > 1,000 mg/kg body weight
Method: Other
GLP: no

Effects on foetal development : Test Type: reproductive and developmental toxicity study
Species: Rat, female
Strain: Sprague-Dawley
Application Route: oral (gavage)
Dose: 150 - 500 - 1000 - 2500 mg/kg
Duration of Single Treatment: 9 d
General Toxicity Maternal: NOEL: 1,500 mg/kg body weight
Teratogenicity: NOEL: 150 mg/kg body weight
Method: Other
GLP: yes

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

hydrocarbon mixture rich in aromatics:

Effects on fertility : Test Type: One generation study
Species: Rat, male and female
Strain: Sprague-Dawley
Application Route: Inhalation
Dose: 5090-12490-24690 mg/m3
Duration of Single Treatment: 6 h
Frequency of Treatment: 7 days/week
General Toxicity - Parent: NOAEL: 24.7 mg/l
General Toxicity F1: NOAEL: 24.7 mg/l
Method: OECD Test Guideline 421
GLP: yes
Remarks: By analogy with a product of similar composition

Test Type: Two-generation study
Species: Rat, male and female
Strain: Sprague-Dawley
Application Route: Inhalation
Dose: 5000-10000-20000 mg/m3
Duration of Single Treatment: 6 h
Frequency of Treatment: 7 days/week
General Toxicity - Parent: NOAEL: >= 20 mg/l
General Toxicity F1: NOAEL: >= 20 mg/l
Method: OECD Test Guideline 416
GLP: yes
Remarks: By analogy with a product of similar composition

Effects on foetal development : Test Type: Fertility/early embryonic development
Species: Rat
Strain: Sprague-Dawley
Application Route: Inhalation
Dose: 2,653 - 7,96 - 23,9 mg/l

Duration of Single Treatment: 14 d
Frequency of Treatment: 6 daily
General Toxicity Maternal: NOAEL: 23.9
Developmental Toxicity: NOAEL: 23.9
Method: OECD Test Guideline 414
GLP: yes

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

Proprietary ingredient 8134:

Effects on fertility : Test Type: Two-generation study
Species: Rat, male and female
Strain: Sprague-Dawley
Application Route: oral (feed)
General Toxicity - Parent: NOAEL: 109 mg/kg body weight
General Toxicity F1: NOAEL: 109 mg/kg body weight
General Toxicity F2: NOAEL: 137 mg/kg body weight
Method: OECD Test Guideline 416

Effects on foetal development : Test Type: Pre-natal
Species: Rabbit
Strain: New Zealand white
Application Route: oral (gavage)
General Toxicity Maternal: NOAEL: 12 mg/kg body weight
Teratogenicity: NOAEL: 12 mg/kg body weight
Method: OECD Test Guideline 414

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

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

Reproductive toxicity - Assessment : Suspected human reproductive toxicant

Ethanol:

Effects on fertility	:	Test Type: Two-generation study Species: Mouse, male and female Strain: CD1 Application Route: Drinking water Dose: 5, 10 and 15% v/v in water Duration of Single Treatment: 126 d General Toxicity - Parent: NOAEL: 15 % General Toxicity F1: NOAEL: 10 % General Toxicity F2: NOAEL: < 15 % Method: OECD Test Guideline 416 GLP: No information available.
Effects on foetal development	:	Test Type: Pre-natal Species: Rat, female Strain: Sprague-Dawley Application Route: Inhalation Dose: 10000, 16000, 20000 ppm nom. Duration of Single Treatment: 19 d Frequency of Treatment: 1 daily General Toxicity Maternal: NOAEL: 16,000 ppm Teratogenicity: NOAEL: 20,000 ppm Method: OECD Test Guideline 414 GLP: No information available.
Reproductive toxicity - Assessment	:	No reproductive toxicity to be expected. No teratogenic effects to be expected.

STOT - single exposure

Components:

Methanol:

Target Organs: Eyes, Central nervous system
Assessment: Causes damage to organs.

Ethanediol:

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

hydrocarbon mixture rich in aromatics:

Assessment: May cause drowsiness or dizziness.

Assessment: May cause respiratory irritation.

Proprietary ingredient 8134:

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

1,2,4-Trimethylbenzene:

Target Organs: Respiratory system
Assessment: May cause respiratory irritation.

2-Mercaptoethanol:

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

Ethanol:

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

STOT - repeated exposure

Components:

Methanol:

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

Ethanediol:

Exposure routes: Oral
Target Organs: Kidney
Assessment: May cause damage to organs through prolonged or repeated exposure.

hydrocarbon mixture rich in aromatics:

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

Proprietary ingredient 8134:

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

2-Mercaptoethanol:

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

Ethanol:

Remarks: no data available

Repeated dose toxicity

Components:

Methanol:

Species: Monkey, male

LOAEL: 2,340 mg/kg
Application Route: oral (gavage)
Exposure time: 3 d
Number of exposures: daily
Dose: 2340 mg/kg
Group: no data available
Method: Other
GLP: No information available.
Remarks: Significant toxicity observed in testing

Species: Rat, male and female
NOEL: 0.13 mg/l
LOAEL: 1.3 mg/l
Application Route: Inhalation
Test atmosphere: vapour
Exposure time: 12 m
Number of exposures: 20 h/day
Dose: 0,013 - 0,13 - 1,3 mg/l
Group: yes
Method: OECD Test Guideline 453
GLP: No information available.

Species: Rat, male and female
NOAEL: 6.66 mg/l
Application Route: Inhalation
Test atmosphere: vapour
Exposure time: 4 w
Number of exposures: 6 h/d, 5 d/wk
Dose: 0,663 - 2,65 - 6,63 mg/l
Group: yes
Method: OECD Test Guideline 412
GLP: No information available.

Application Route: Skin contact
Remarks: not tested.

Repeated dose toxicity - Assessment : Toxic if swallowed, in contact with skin or if inhaled.

Ethanediol:

Species: Rat, male
NOAEL: 150 mg/kg bw/day
Application Route: oral (feed)
Exposure time: 16 w
Number of exposures: daily
Dose: 50 - 150 - 500 - 1000 mg/kg
Group: yes
Method: OECD Test Guideline 408
GLP: No information available.

Species: Dog, male

NOAEL: 2.200 - 4.400 mg/kg bw/day
Application Route: Dermal
Exposure time: 4 w
Number of exposures: daily
Dose: 2 - 4 mL/kg bw
Group: yes
Method: OECD Test Guideline 410
GLP: yes

Repeated dose toxicity - Assessment : Harmful if swallowed.

hydrocarbon mixture rich in aromatics:

Species: Rat, male
LOAEL: 500 mg/kg
Application Route: oral (gavage)
Exposure time: 28 d
Number of exposures: daily
Dose: 500 - 2000 mg/kg
Group: yes
Method: Other
GLP: yes
Remarks: By analogy with a product of similar composition

Species: Rat, male and female
NOAEL: 1.402 mg/l
Application Route: Inhalation
Exposure time: 107 - 109 w
Number of exposures: 6 h / day, 5 days/week
Dose: 322 - 1402 - 9869 mg/m3
Group: yes
Method: OECD Test Guideline 453
GLP: No information available.
Remarks: By analogy with a product of similar composition

Species: Rat, male and female
NOAEL: 9.84 mg/l
Application Route: Inhalation
Exposure time: 28 d
Number of exposures: 6 h / day, 5 days/week
Dose: 328 - 1406 - 9840 mg/m3
Group: yes
Method: OECD Test Guideline 412
GLP: yes
Remarks: By analogy with a product of similar composition

Species: Rat, male and female
NOAEL: < 375 mg/kg
Application Route: Skin contact
Exposure time: 28 d
Number of exposures: 6 h / day, 5 days/week

Dose: 375-750-1500-1875-3750-7500mg/
Group: yes
Method: OECD Test Guideline 410
GLP: yes
Remarks: By analogy with a product of similar composition

Proprietary ingredient 8134:

Species: Rat, male and female
NOAEL: 31 mg/kg bw/day
Application Route: oral (feed)
Method: OECD Test Guideline 453

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

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.

Ethanol:

Species: Rat, male and female
LOAEL: ca. 3200 mg/kg
Application Route: oral (gavage)
Exposure time: 7 weeks or 14 weeks
Number of exposures: twice daily, 7 days a week
Dose: 5, 10, 20 ml/kg
Group: yes
Method: OECD Test Guideline 408
GLP: No information available.

Species: Rat, male
NOEL: > 20 mg/l
Application Route: inhalation (vapour)
Exposure time: 3, 6, 9, 26 day groups
Number of exposures: continuous
Dose: 20 mg/l
Group: yes
Method: Other
GLP: No information available.

Aspiration toxicity

Components:

Methanol:
No aspiration toxicity classification

Ethanediol:
No aspiration toxicity classification

hydrocarbon mixture rich in aromatics:
May be fatal if swallowed and enters airways.

Proprietary ingredient 8134:
No aspiration toxicity classification

2-Mercaptoethanol:
no data available

Ethanol:
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: not tested.

Toxicity to daphnia and other aquatic invertebrates :
Remarks: not tested.

Toxicity to algae/aquatic plants :
Remarks: not tested.

Components:

Methanol:

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 15,400 mg/l
End point: mortality

Exposure time: 96 h
Test Type: flow-through test
Analytical monitoring: yes
Method: EPA
GLP: No information available.

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 18,260 mg/l
End point: Immobilization
Exposure time: 96 h
Test Type: semi-static test
Analytical monitoring: no data available
Method: OECD Test Guideline 202
GLP: No information available.
Remarks: The details of the toxic effect relate to the nominal concentration.

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (microalgae)): ca. 22,000 mg/l
End point: Growth rate
Exposure time: 96 h
Test Type: static test
Analytical monitoring: no data available
Method: OECD Test Guideline 201
GLP: No information available.

Toxicity to fish (Chronic toxicity) : NOEC (Pimephales promelas (fathead minnow)): 446.7 mg/l
Exposure time: 28 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 (Daphnia magna (Water flea)): 208 mg/l
End point: Reproduction rate
Exposure time: 21 d
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.

Toxicity to microorganisms : IC50 (activated sludge): > 1,000 mg/l
End point: Bacteria toxicity (growth inhibition)
Exposure time: 3 h
Test Type: aquatic
Analytical monitoring: yes
Method: OECD Test Guideline 209
GLP: No information available.

Toxicity to soil dwelling organisms : LC50 (Eisenia fetida (earthworms)): > 1 mg/cm2
Exposure time: 48 h

End point: mortality
Method: OECD Test Guideline 207
GLP: No information available.

NOEC (Folsomia candida): 10000 mg/kg dry weight (d.w.)
Exposure time: 28 d
End point: mortality
Method: Other
GLP: No information available.

Plant toxicity : IC50: ca. 41,000 mg/l
Exposure time: 3 d
End point: emergence
Species: Lactuca sativa (lettuce)
Analytical monitoring: no data available
Method: Other
GLP: no

Sediment toxicity : Remarks: Not applicable

Ethanediol:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 72,860 mg/l
Exposure time: 96 h
Test Type: static test
Analytical monitoring: yes
Method: EPA
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: yes
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 6,500 - 13,000 mg/l
End point: Growth rate
Exposure time: 7 d
Test Type: static test
Analytical monitoring: no data available
Method: EPA
GLP: No information available.

Toxicity to fish (Chronic toxicity) : Chronic Toxicity Value (Fish): 2,629 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.): 8,590 mg/l
End point: Reproduction rate
Exposure time: 7 d
Test Type: semi-static test
Analytical monitoring: yes
Method: Other
GLP: No information available.
Remarks: The details of the toxic effect relate to the nominal concentration.

Toxicity to microorganisms : EC20 (activated sludge, domestic): > 1,995 mg/l
End point: Bacteria toxicity (respiration inhibition)
Exposure time: 0.5 h
Analytical monitoring: no
Method: ISO 8192
GLP: no

hydrocarbon mixture rich in aromatics:

Toxicity to fish : LL50 (Pimephales promelas (fathead minnow)): 8.2 mg/l
Exposure time: 96 h
Test Type: semi-static test
Analytical monitoring: yes
Method: EPA
GLP: yes
Remarks: By analogy with a product of similar composition
The details of the toxic effect relate to the nominal concentration.

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): 4.5 mg/l
Exposure time: 48 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 202
GLP: yes
Remarks: By analogy with a product of similar composition
The details of the toxic effect relate to the nominal concentration.

Toxicity to algae/aquatic plants : EL50 (Pseudokirchneriella subcapitata (green algae)): 3.1 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: By analogy with a product of similar composition

The details of the toxic effect relate to the nominal concentration.

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

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOELR (Daphnia magna (Water flea)): 13 mg/l
End point: Reproduction rate
Exposure time: 21 d
Test Type: semi-static test
Analytical monitoring: yes
Method: OECD Test Guideline 211
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

Toxicity to microorganisms : EC50 (Tetrahymena pyriformis): 15.41 mg/l
End point: Growth rate
Exposure time: 40 h
Test Type: aquatic
Analytical monitoring: no
Method: estimated
GLP: no
Remarks: The details of the toxic effect relate to the nominal concentration.

Toxicity to soil dwelling organisms : NOEC (other soil dwelling arthropod): 0.4 - 20.8 mg/kg
Method: Other
GLP: no
Remarks: By analogy with a product of similar composition

Plant toxicity : NOEC: 0.4 - 20.8 mg/kg
Species: other terrestrial plant
Method: Other
GLP: no
Remarks: By analogy with a product of similar composition

Sediment toxicity : Remarks: Not applicable

Toxicity to terrestrial organisms : Remarks: Not applicable

Ecotoxicology Assessment

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

Coco dimethyl benzyl ammonium chloride:

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

Proprietary ingredient 8134:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): 0.49 mg/l End point: mortality Exposure time: 96 h Test Type: semi-static test Method: OECD Test Guideline 203 GLP: yes
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.029 mg/l End point: Immobilization Exposure time: 48 h Test Type: static test Analytical monitoring: no Method: OECD Test Guideline 202 GLP: yes
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (algae)): 0.062 mg/l End point: Growth rate Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: yes ErC10 (Pseudokirchneriella subcapitata (algae)): 0.02 mg/l End point: Growth rate Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: yes
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)): 0.021 mg/l End point: Reproduction rate Exposure time: 21 d Test Type: semi-static test Analytical monitoring: yes Method: OECD Test Guideline 211 GLP: yes
Toxicity to microorganisms	:	EC10 (activated sludge): 5.95 mg/l End point: Bacteria toxicity (respiration inhibition) Exposure time: 3 h Test Type: static test Analytical monitoring: no Method: OECD Test Guideline 209 GLP: yes

EC50 (Bacteria): 120
Exposure time: 28 d
Test Type: Soil
Analytical monitoring: yes
Method: OECD Test Guideline 216
GLP: yes

Toxicity to soil dwelling organisms : EC50 (Eisenia fetida (earthworms)): 509 mg/kg
Exposure time: 28 d
End point: Reproduction
Method: OECD Test Guideline 222

Plant toxicity : EC50: 235 mg/kg
Exposure time: 14 d
End point: Growth
Species: Triticum aestivm (wheat)
Analytical monitoring: yes
Method: OECD Test Guideline 208
GLP: yes

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

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

1,2,4-Trimethylbenzene:

Toxicity to fish : LC50: 22.4 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : LC50 (Elasmopus pectenicrus): 4.910 mg/l
Exposure time: 48 h
Remarks: salt water

Ecotoxicology Assessment

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

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

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/aquatic plants	:	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

Ecotoxicology Assessment

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

Ethanol:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): 15,300 mg/l End point: mortality Exposure time: 96 h Test Type: flow-through test Analytical monitoring: yes Method: Other GLP: No information available. LC50 (Oncorhynchus mykiss (rainbow trout)): 11,200 mg/l End point: mortality Exposure time: 24 h Test Type: flow-through test Analytical monitoring: no Method: Other GLP: No information available.
Toxicity to daphnia and other aquatic invertebrates	:	LC50 (Ceriodaphnia dubia (water flea)): 5,012 mg/l End point: mortality Exposure time: 48 h Test Type: static test Analytical monitoring: no Method: Other GLP: No information available. EC50 (Daphnia magna (Water flea)): > 10,000 mg/l End point: Immobilization Exposure time: 48 h

Method: DIN 38412
GLP: no

Toxicity to algae/aquatic plants	:	EC50 (Chlorella vulgaris (Fresh water algae)): 275 mg/l Exposure time: 72 h Test Type: static test Method: OECD Test Guideline 201 EC10 (Chlorella vulgaris (Fresh water algae)): 11.5 mg/l Exposure time: 72 h Test Type: static test Method: OECD Test Guideline 201
Toxicity to fish (Chronic toxicity)	:	NOEC (Danio rerio (zebra fish)): 250 mg/l End point: Other Exposure time: 120 h Test Type: semi-static test Method: OECD Test Guideline 212 GLP: No information available.
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	Remarks: no data available
Toxicity to microorganisms	:	EC50 (Natural microorganism): 5,800 mg/l Exposure time: 4 h Test Type: static test
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:

Methanol:

Biodegradability	:	aerobic Inoculum: activated sludge Concentration: 3 - 10 mg/l Biochemical Oxygen Demand (BOD) Result: Readily biodegradable. Biodegradation: 95 %

Exposure time: 20 d
Method: Closed Bottle test
GLP: no

aerobic
Inoculum: activated sludge
Concentration: 4 - 200 g/l
Biochemical Oxygen Demand (BOD)
Result: Readily biodegradable.
Biodegradation: 82.7 %
Exposure time: 5 d
Method: Other
GLP: no

Photodegradation : Rate constant: 9.32E-13 cm3/s
Degradation (indirect photolysis): 50 % Degradation half life: 17.2 d
GLP: no

Ethanediol:

Biodegradability : aerobic
Inoculum: activated sludge
Concentration: 53 mg/l
Dissolved organic carbon (DOC)
Result: Readily biodegradable.
Biodegradation: 90 - 100 %
Exposure time: 10 d
Method: OECD Test Guideline 301A
GLP: yes

hydrocarbon mixture rich in aromatics:

Biodegradability : aerobic
Inoculum: activated sludge
Concentration: 20 mg/l
Carbon dioxide (CO2)
Result: Readily biodegradable.
Biodegradation: 90.4 %
Exposure time: 28 d
Method: OPPTS 835.3120 (ISO/DIS-14593)
GLP: yes
Remarks: By analogy with a product of similar composition

aerobic
Inoculum: activated sludge
Concentration: 49.2 mg/l
Biochemical oxygen demand
Result: Readily biodegradable.
Biodegradation: 77.1 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
GLP: yes

Remarks: By analogy with a product of similar composition

Physico-chemical removability : Remarks: Readily biodegradable, according to appropriate OECD test.

Proprietary ingredient 8134:

Biodegradability : aerobic
Inoculum: Other
Concentration: 4 mg/l
Biochemical Oxygen Demand (BOD)
Result: Readily biodegradable.
Biodegradation: 69 %
Exposure time: 28 d
Method: OECD Test Guideline 301D
GLP: yes

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

Ethanol:

Biodegradability : aerobic
Result: Readily biodegradable.
Biodegradation: 84 %
Exposure time: 20 d

Bioaccumulative potential

Components:

Methanol:

Bioaccumulation : Species: Leuciscus idus (Golden orfe)
Bioconcentration factor (BCF): < 10
Exposure time: 72 h
Method: Other
GLP: No information available.

Partition coefficient: n-octanol/water : log Pow: -0.77
Method: No information available.
GLP: No information available.

Ethanediol:

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

expected

Partition coefficient: n-octanol/water	:	log Pow: -1.36 Method: estimated GLP: no

hydrocarbon mixture rich in aromatics:

Bioaccumulation	:	Remarks: Not applicable

Proprietary ingredient 8134:

Bioaccumulation	:	Bioconcentration factor (BCF): 71 Method: calculated Remarks: Bioaccumulation is unlikely.
Partition coefficient: n-octanol/water	:	log Pow: 2.59 (68 °F / 20 °C) pH: 7 Method: Other GLP: no

Ethanol:

Bioaccumulation	:	Bioconcentration factor (BCF): 0.66 Method: calculated Remarks: Does not bioaccumulate.
Partition coefficient: n-octanol/water	:	log Pow: -0.35 (75 °F / 24 °C) pH: 7.4 Method: OECD Test Guideline 107

Mobility in soil

Components:

Methanol:

Distribution among environmental compartments	:	Adsorption/Soil Medium: water - soil Koc: 1 Method: other (calculated)

Ethanediol:

Distribution among environmental compartments	:	Adsorption/Soil Medium: water - soil log Koc: 0 Method: other (calculated)

hydrocarbon mixture rich in aromatics:

Distribution among environmental compartments	:	Adsorption/Soil Medium: water - soil log Koc: -2.4 - 1.8 Method: estimated

Proprietary ingredient 8134:

Distribution among environmental compartments	:	Adsorption/Soil Koc: 14.072 Method: OECD Test Guideline 106

Ethanol:

Distribution among environmental compartments	:	adsorption Medium: water - soil Remarks: Not expected to adsorb on soil.

Other adverse effects

Components:

Methanol:

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.

Ethanediol:

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.

hydrocarbon mixture rich in aromatics:

Environmental fate and pathways	:	no data available
Results of PBT and vPvB assessment	:	This substance is not considered to be persistent, bioaccumulating and toxic (PBT).
Additional ecological information	:	The product should not be allowed to enter drains, water courses or the soil.

Proprietary ingredient 8134:

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

Ethanol:

Results of PBT and vPvB assessment	:	This substance is not considered to be persistent, bioaccumulating and toxic (PBT).
Additional ecological information	:	The product should not be allowed to enter drains, water courses or the soil.

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	:	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:

UN/NA-number:	UN 3286
Proper shipping name:	Flammable liquid, toxic, corrosive, n.o.s.
Technical Name:	Methanol Alkyldimethylbenzylammoniumchloride
Primary hazard class:	3
Subsidiary hazard class:	6.1
Tertiary hazard class:	8
Packing group:	II
Reportable Quantity:	2,522.000 kg Methanol
Emergency Response Guide:	131

IATA

UN/ID number:	UN 3286
Proper shipping name:	Flammable liquid, toxic, corrosive, n.o.s.
Hazard inducer(s):	Methanol Alkyldimethylbenzylammoniumchloride
Primary risk:	3
Subsidiary risk:	6.1
Tertiary risk:	8

Packing group: II
Remarks: Shipment permitted

IMDG

UN no.: UN 3286
Proper shipping name: Flammable liquid, toxic, corrosive, n.o.s.
Hazard inducer(s): Methanol
Alkyldimethylbenzylammoniumchloride

Primary risk: 3
Subsidiary risk: 6.1
Tertiary risk: 8
Packing group: II
EmS: F-E S-C

SECTION 15. REGULATORY INFORMATION

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

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Methanol	67-56-1	5000	6674
Ethanediol	107-21-1	5000	*
Phosphoric acid	7664-38-2	5000	*

*: Calculated RQ exceeds reasonably attainable upper limit.
A characteristic waste RQ of 100 lbs applies to this product in a waste form: D001

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)
Respiratory or skin sensitisation
Reproductive toxicity
Specific target organ toxicity (single or repeated exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation

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

Methanol	67-56-1	>= 70 - < 90 %
Ethanediol	107-21-1	>= 1 - < 5 %
1,2,4-Trimethylbenzene	95-63-6	>= 1 - < 5 %

Clean Water Act

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307, This product is an oil in the context of the USA Clean Water Act (CWA). Spills to USA surface waters, or to watercourse or sewer waters that cause a visible sheen must be reported to the National Response Center.

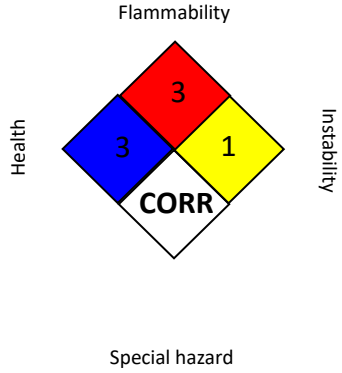
The components of this product are reported in the following inventories:

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. 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 P0 / C	:	Ceiling 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

Observe all necessary precautions for handling corrosive liquids.
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.

Revision Date : 04/21/2020

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