

SOLVTREAT 13401

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Substance key: 000000513198
Version : 2 - 9 / USA

Revision Date: 03/26/2020
Date of printing :04/15/2021

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: SOLVTREAT 13401
Material number: 280549

Primary product use: Additive

SECTION 2. HAZARDS IDENTIFICATION**GHS classification in accordance with 29 CFR 1910.1200**

Flammable liquids : Category 3

Skin irritation : Category 2

Eye irritation : Category 2A

Germ cell mutagenicity : Category 1B

Carcinogenicity : Category 1B

Reproductive toxicity : Category 2

Specific target organ toxicity : Category 3 (Central nervous system)
- single exposure

Specific target organ toxicity : Category 2 (Kidney, Liver, Central nervous system)
- repeated exposure

Specific target organ toxicity : Category 2 (Central nervous system)
- repeated exposure
(Inhalation)

Aspiration hazard : Category 1

GHS label elements

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Hazard pictograms	:	  
Signal word	:	Danger
Hazard statements	:	H226 Flammable liquid and vapour. H304 May be fatal if swallowed and enters airways. H315 Causes skin irritation. H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness. H340 May cause genetic defects. H350 May cause cancer. H361d Suspected of damaging the unborn child. H373 May cause damage to organs (Kidney, Liver, Central nervous system) through prolonged or repeated exposure. H373 May cause damage to organs (Central nervous system) through prolonged or repeated exposure if inhaled.
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. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. Response: P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. 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.

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P331 Do NOT induce vomiting.
P332 + P313 If skin irritation occurs: Get medical advice/
attention.
P337 + P313 If eye irritation persists: 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)
Toluene	108-88-3	50 - 70
Solvent naphtha (petroleum), light aliph.	64742-89-8	30 - 50
Xylene	1330-20-7	1 - 5
Ethylbenzene	100-41-4	0.1 - 1

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

If inhaled : Move the victim to fresh air.
Give oxygen or artificial respiration if needed.
Get immediate medical advice/ attention.
Never give anything by mouth to an unconscious person.

In case of skin contact : Wash thoroughly with soap and water for 15 minutes. If skin
irritation occurs, seek medical attention.

In case of eye contact : Rinse thoroughly with plenty of water for at least 15 minutes
and consult a physician.

If swallowed : Get medical attention immediately.
Do NOT induce vomiting.

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

Notes to physician : Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Cool containers/tanks with water spray.

Unsuitable extinguishing media : High volume water jet

Specific hazards during firefighting : In case of fire hazardous decomposition products may be produced such as:
Carbon monoxide
Carbon dioxide (CO₂)

Burning produces noxious and toxic fumes.
Containers exposed to intense heat from fires should be cooled with water to prevent vapor pressure buildup which could result in container rupture. Container areas exposed to direct flame contact should be cooled with large quantities of water as needed to prevent weakening of container structure.

Further information : Wear positive pressure self-contained breathing apparatus and full protective gear. Do not direct a solid stream of water or foam into hot burning pools; this may spread fire, cause frothing, and increase fire intensity. Containers can build up pressure if exposed to heat and/or fire. Vapors may form an explosive mixture with air. Vapors may travel to source of ignition and flash back. Use water spray to keep containers cool.

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 : 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

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vermiculite may be used to keep material from entering drains, sewers, or streams.

SECTION 7. HANDLING AND STORAGE

- Advice on safe handling : Store in a cool area away from heat, sparks, flame and other sources of ignition. Keep container tightly sealed.
Prevent a possible fire hazard by bonding and grounding or inert gas purge.
Wash thoroughly after handling.
- Further information on storage conditions : Store in a cool, dry location away from heat, sparks and open flames.
Store in original container.
Keep container tightly closed.

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

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Toluene	108-88-3	TWA	20 ppm	ACGIH
		TWA	100 ppm 375 mg/m ³	NIOSH REL
		ST	150 ppm 560 mg/m ³	NIOSH REL
		TWA	200 ppm	OSHA Z-2
		CEIL	300 ppm	OSHA Z-2
		Peak	500 ppm (10 minutes)	OSHA Z-2
		TWA	100 ppm 375 mg/m ³	OSHA P0
Solvent naphtha (petroleum), light aliph.	64742-89-8	TWA	500 ppm 2,000 mg/m ³	OSHA Z-1
		TWA	400 ppm 1,600 mg/m ³	OSHA P0
Xylene	1330-20-7	STEL	150 ppm 655 mg/m ³	OSHA P0
		TWA	100 ppm 435 mg/m ³	OSHA P0
Ethylbenzene	100-41-4	TWA	20 ppm	ACGIH
		TWA	100 ppm	NIOSH REL

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			435 mg/m3	
		ST	125 ppm 545 mg/m3	NIOSH REL
		TWA	100 ppm 435 mg/m3	OSHA Z-1
		TWA	100 ppm 435 mg/m3	OSHA P0
		STEL	125 ppm 545 mg/m3	OSHA P0

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
Ethylbenzene	100-41-4	Sum of mandelic acid and phenyl glyoxylic acid	Urine	End of shift (As soon as possible after exposure ceases)	0.15 g/g creatinine	ACGIH BEI
Toluene	108-88-3	Toluene	In blood	Prior to last shift of workweek	0.02 mg/l	ACGIH BEI
		Toluene	Urine	End of shift (As soon as possible after exposure ceases)	0.03 mg/l	ACGIH BEI
		o-Cresol	Urine	End of shift (As soon as possible after exposure ceases)	0.3 mg/g Creatinine	ACGIH BEI
Xylene	1330-20-7	Methylhippuric acids	Urine	End of shift (As soon as possible after exposure ceases)	1.5 g/g creatinine	ACGIH BEI

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

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Personal protective equipment

- Respiratory protection : 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
- Material : Silver Shield(R) gloves
- Remarks : Viton® PVA gloves or gauntlets
- Eye protection : Tightly fitting safety goggles
- Skin and body protection : Wear suitable protective equipment.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : Liquid
- Colour : clear
- Odour : hydrocarbon-like
- Odour Threshold : not available
- pH : Not applicable
- Freezing point : not determined
- Boiling point : 192.9 - 289.0 °F / 89.4 - 142.8 °C
- Flash point : < 73 °F / 23 °C
- Evaporation rate : not determined
- Flammability (solid, gas) : Not applicable
- Upper explosion limit / upper flammability limit : not determined
- Lower explosion limit / Lower flammability limit : not determined
- Vapour pressure : not available
- Relative vapour density : not determined
- Density : 0.77 - 0.81 g/cm³ (68 °F / 20 °C)

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Solubility(ies)		
Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	not available
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	not tested.
Viscosity		
Viscosity, dynamic	:	< 10 mPa.s
Viscosity, kinematic	:	not determined

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 heat. Keep away from open flames, hot surfaces and sources of ignition.
Incompatible materials	:	not known
Hazardous decomposition products	:	No decomposition if stored and applied as directed.

SECTION 11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure**

Eye contact
Skin contact
Ingestion
Inhalation

Acute toxicity**Product:**

Acute inhalation toxicity	:	Acute toxicity estimate: > 200 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

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Components:**Toluene:**

- Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Symptoms: Vomiting, Stomach/intestinal disorders
- Acute inhalation toxicity : (Rat): > 20 mg/l
Exposure time: 4 h
Target Organs: Lungs, Respiratory system, Liver, Kidney,
Nervous system
Symptoms: Lung oedema, Breathing difficulties, Vomiting,
Pain, Dizziness
- Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

Xylene:

- Acute oral toxicity : LD50 (Rat, male and female): 3523 - > 4000 mg/kg
Method: EC Directive 92/69/EEC B.1 Acute Toxicity (Oral)
GLP: no

Assessment: The substance or mixture has no acute oral toxicity
- Acute inhalation toxicity : LC50 (Rat, male): 27.571 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: Directive 67/548/EEC, Annex V, B.2.
GLP: No information available.
Assessment: The component/mixture is moderately toxic after short term inhalation.
- Acute dermal toxicity : Other (Rabbit, male): > 4,200 mg/kg
Method: Other
GLP: No information available.

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

Ethylbenzene:

- Acute oral toxicity : LD50 (Rat, male and female): ca. 3,500 mg/kg
Method: Other
GLP: no
- Acute inhalation toxicity : Assessment: The component/mixture is moderately toxic after short term inhalation.

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Skin corrosion/irritation**Components:****Toluene:**

Species: Rabbit
Method: OECD Test Guideline 404
Result: Skin irritation

Xylene:

Species: Rabbit
Method: Other
Result: Irritating to skin.
GLP: No information available.

Ethylbenzene:

Species: Rabbit
Method: Other
Result: slight irritation
GLP: no

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

Species: rabbit eye
Result: slight irritation
Assessment: No eye irritation
Method: OECD Test Guideline 405

Xylene:

Species: rabbit eye
Result: Irritating to eyes.
Method: Other
GLP: No information available.

Ethylbenzene:

Species: rabbit eye
Result: slight irritation
Method: Other
GLP: no

Respiratory or skin sensitisation**Components:****Toluene:**

Exposure routes: Skin contact
Species: Rat

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Result: Does not cause skin sensitisation.

Xylene:

Test Type: Local lymph node assay (LLNA)

Exposure routes: Skin contact

Species: Mouse

Method: OECD Test Guideline 429

Result: Not a skin sensitizer.

GLP: No information available.

Ethylbenzene:

Remarks: not required

Germ cell mutagenicity**Components:****Toluene:**

Genotoxicity in vitro : Test Type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: Regulation (EC) No. 440/2008, Annex, B.13/14
(Ames test)
Result: negative

Test Type: gene mutation test
Test system: mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative

Genotoxicity in vivo : Test Type: Cytogenetic assay
Species: Rat
Method: Other
Result: negative

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

In vivo tests did not show mutagenic effects

Xylene:

Genotoxicity in vitro : Test Type: sister chromatid exchange assay
Test system: Chinese hamster ovary cells
Concentration: 5 - 50 µg/ml
Metabolic activation: with and without metabolic activation
Method: Other
Result: negative
GLP: No information available.

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- Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary cells
Concentration: 15,1 - 100,5 µg/ml
Metabolic activation: with and without metabolic activation
Method: Directive 84/449/EEC, B.10
Result: negative
GLP: No information available.
- Genotoxicity in vivo : Test Type: dominant lethal test
Species: Mouse (male and female)
Strain: Other
Application Route: Subcutaneous
Exposure time: single injection
Dose: 1 ml/kg
Method: OECD Test Guideline 478
Result: negative
GLP: no
- Germ cell mutagenicity - Assessment : It is concluded that the product is not mutagenic based on evaluation of several mutagenicity tests.
- Ethylbenzene:**
- Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary cells
Concentration: 75 - 125 µg/ml
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative
GLP: no
- Test Type: In vitro gene mutation study in mammalian cells
Test system: mouse lymphoma cells
Concentration: 4,2 - 1060 µg/ml
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
GLP: yes
- Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse (male and female)
Strain: NMRI
Cell type: Bone marrow
Application Route: oral (gavage)
Exposure time: 24 - 48 h
Dose: 187,5-375-750 mg/kg
Method: OECD Test Guideline 474
Result: negative
GLP: yes
- Test Type: unscheduled DNA synthesis assay
Species: Mouse (male and female)

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Strain: B6C3F1
Application Route: Inhalation
Exposure time: 6 h
Dose: 375-500-750-1000 ppm
Method: OECD Test Guideline 486
Result: negative
GLP: yes

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

Carcinogenicity**Components:****Toluene:**

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

Xylene:

Carcinogenicity - Assessment : Animal testing did not show any carcinogenic effects.

Ethylbenzene:

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

IARC

Group 2B: Possibly carcinogenic to humans

Ethylbenzene 100-41-4

OSHA

Carcinogen

Ethylbenzene 100-41-4

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:****Toluene:**

Reproductive toxicity - Assessment : Some evidence of adverse effects on development, based on animal experiments.

Xylene:

Effects on fertility : Test Type: Two-generation study
Species: Rat, male and female

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Application Route: Inhalation
Dose: 25 - 100 - 500 ppm
Duration of Single Treatment: 6 h
General Toxicity - Parent: NOAEL: \geq 2.171 mg/l
General Toxicity F1: NOAEL: \geq 2.171 mg/l
General Toxicity F2: NOAEL: \geq 2.171 mg/l
Method: Other
GLP: No information available.
Remarks: By analogy with a product of similar composition

Effects on foetal development : Test Type: Two-generation study
Species: Rat
Application Route: Inhalation
Dose: 100 - 500 - 1000 ppm
Developmental Toxicity: NOAEL: 342 mg/kg body weight
Method: OPPTS 870.3800
GLP: No information available.
Remarks: Based on available data, the classification criteria are not met.

Reproductive toxicity - Assessment : Classification as "toxic for reproduction" is not justifiable.
Classification as "teratogenic" is not justifiable.

Ethylbenzene:

Effects on fertility : Test Type: Two-generation study
Species: Rat, male and female
Strain: Sprague-Dawley
Application Route: Inhalation
Dose: 25 - 100 - 500 ppm
Duration of Single Treatment: 6 h
General Toxicity - Parent: NOAEL: 2.21 mg/l
General Toxicity F1: NOAEL: 2.21 mg/l
General Toxicity F2: NOAEL: 2.21 mg/l
Method: OECD Test Guideline 416
GLP: yes

Effects on foetal development : Test Type: Fertility/early embryonic development
Species: Rat
Strain: Sprague-Dawley
Application Route: Inhalation
Dose: 100-500-1000-2000 ppm
Duration of Single Treatment: 15 d
General Toxicity Maternal: 500
Teratogenicity: 2,000
Developmental Toxicity: 500
Method: OECD Test Guideline 414
GLP: No information available.

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

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STOT - single exposure**Components:****Toluene:**

Assessment: May cause drowsiness or dizziness.

Xylene:

Exposure routes: Inhalation

Assessment: May cause respiratory irritation.

Ethylbenzene:

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

STOT - repeated exposure**Components:****Toluene:**

Assessment: May cause damage to organs through prolonged or repeated exposure.

Xylene:

Target Organs: Kidney, Liver, Central nervous system

Assessment: May cause damage to organs through prolonged or repeated exposure.

Ethylbenzene:

Target Organs: hearing organs

Assessment: May cause damage to organs through prolonged or repeated exposure.

Repeated dose toxicity**Components:****Toluene:**

Target Organs: Liver, Nervous system

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

Remarks: no data available

Xylene:

Species: Rat, male and female

NOAEL: 250 mg/kg

Application Route: oral (gavage)

Exposure time: 103 w

Number of exposures: Once daily (5 days/week).

Dose: 250 - 500 mg/kg

Group: yes

Method: Other

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GLP: No information available.

Species: Rat, male and female
NOAEL: 150 mg/kg
LOAEL: 150 mg/kg
Application Route: oral (gavage)
Exposure time: 90 d
Number of exposures: once daily
Dose: 150 - 750 - 1500 mg/kg
Group: yes
Method: OECD Test Guideline 408
GLP: No information available.

Species: Rat, male
NOAEL: \geq 3.515 mg/l
Application Route: Inhalation
Exposure time: 13 w
Number of exposures: 6 hours/day, 5 days/week
Dose: 781 - 1996 - 3515 mg/m³
Group: yes
Method: Other
GLP: No information available.

Application Route: Skin contact
Remarks: This information is not available.

Ethylbenzene:

Species: Rat, male and female
NOAEL: 75 mg/kg
Application Route: oral (gavage)
Exposure time: 3 m
Number of exposures: twice daily
Dose: 75 - 250 - 750 mg/kg
Group: yes
Method: OECD Test Guideline 408
GLP: yes

Species: Rat, male and female
NOAEL: 0.33 - 1.1 mg/l
Application Route: Inhalation
Exposure time: 2 a
Number of exposures: 6 hours/day, 5 days/week
Dose: 75 - 250 - 750 ppm
Group: yes
Method: OECD Test Guideline 453
GLP: yes

Application Route: Skin contact
Remarks: This information is not available.

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Aspiration toxicity**Components:****Toluene:**

May be fatal if swallowed and enters airways.

Xylene:

May be fatal if swallowed and enters airways.

Ethylbenzene:

May be fatal if swallowed and enters airways.

Experience with human exposure**Product:**

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

Further information**Components:****Toluene:**

Remarks: Inhalation of vapours is irritating to the respiratory system, may cause throat pain and cough.

Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Ingestion or inhalation of high concentrations may cause injuries to gastrointestinal tract, liver, kidneys and central nervous system.

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

Poisoning by resorption through skin possible.

Has a degreasing effect on the skin.

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

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 5.5 mg/l
Exposure time: 96 h
Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates : LC50 (Ceriodaphnia dubia (water flea)): 3.78 mg/l
Exposure time: 48 h
Test Type: semi-static test
Method: EPA

Toxicity to algae/aquatic : EC50 (Chlorella vulgaris (Fresh water algae)): 134 mg/l

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plants	Exposure time: 3 h Test Type: static test Method: Other
Toxicity to fish (Chronic toxicity)	: NOEC (Oncorhynchus kisutch (coho salmon)): 1.39 mg/l Exposure time: 40 d Test Type: flow-through test
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: NOEC (Ceriodaphnia spec.): 0.74 mg/l End point: Reproduction rate Exposure time: 7 d Test Type: semi-static test Method: Other
Toxicity to microorganisms	: NOEC (Pseudomonas putida): 29 mg/l Exposure time: 16 h
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
Xylene:	
Toxicity to fish	: LC50 (Oncorhynchus mykiss (rainbow trout)): 2.6 mg/l Exposure time: 96 h Test Type: semi-static test Analytical monitoring: yes Method: OECD Test Guideline 203 GLP: No information available. Remarks: By analogy with a product of similar composition
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): ca. 1 mg/l Exposure time: 24 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 202 GLP: No information available. Remarks: By analogy with a product of similar composition
Toxicity to algae/aquatic plants	: EC50 (Pseudokirchneriella subcapitata (microalgae)): 4.36 mg/l End point: Growth rate Exposure time: 73 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201

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GLP: yes

Remarks: By analogy with a product of similar composition

EC50 (Pseudokirchneriella subcapitata (green algae)): 2.2 mg/l

End point: Biomass

Exposure time: 73 h

Test Type: static test

Analytical monitoring: yes

Method: OECD Test Guideline 201

GLP: yes

Remarks: By analogy with a product of similar composition

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.44 mg/l

Exposure time: 73 h

Test Type: static test

Analytical monitoring: yes

Method: OECD Test Guideline 201

GLP: yes

Remarks: By analogy with a product of similar composition

Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): > 1.3 mg/l
Exposure time: 56 d
Test Type: flow-through test
Analytical monitoring: yes
Method: Other
GLP: no

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Freshwater insects): 0.96 - 1.17 mg/l
End point: Reproduction rate
Exposure time: 7 d
Test Type: semi-static test
Analytical monitoring: yes
Method: Other
GLP: no
Remarks: By analogy with a product of similar composition

Toxicity to microorganisms : EC50 (Nitrosomonas sp.): 96 mg/l
Exposure time: 24 h
Test Type: static test
Analytical monitoring: no
Method: Other
GLP: No information available.
Remarks: By analogy with a product of similar composition
The details of the toxic effect relate to the nominal concentration.

EC50 (activated sludge, domestic): > 157 mg/l
End point: Bacteria toxicity (respiration inhibition)
Exposure time: 3 h
Test Type: static test

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Analytical monitoring: no
Method: OECD Test Guideline 209
GLP: yes
Remarks: By analogy with a product of similar composition
The details of the toxic effect relate to the nominal concentration.

Toxicity to soil dwelling organisms : Remarks: Not applicable

Plant toxicity : EC50: ca. > 1 mg/kg
>1 milligram per kilogram
Exposure time: 14 d
End point: Growth
Species: Lactuca sativa (lettuce)
Analytical monitoring: yes
Method: OECD Guide-line 208
GLP: No information available.
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 : Harmful to aquatic life with long lasting effects.

Ethylbenzene:

Toxicity to fish : LC50 (Menidia menidia (Atlantic silverside)): 5.1 mg/l
Exposure time: 96 h
Test Type: flow-through test
Analytical monitoring: yes
Method: Other
GLP: yes

LC50 (Oncorhynchus mykiss (rainbow trout)): 4.2 mg/l
Exposure time: 96 h
Test Type: flow-through test
Analytical monitoring: yes
Method: OECD Test Guideline 203
GLP: No information available.

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1.8 - 2.4 mg/l
Exposure time: 48 h
Test Type: static test
Analytical monitoring: yes
Method: EPA
GLP: no

LC50 (Mysidopsis bahia (opossum shrimp)): 2.6 mg/l

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		Exposure time: 96 h Test Type: flow-through test Analytical monitoring: yes Method: EPA GLP: yes
Toxicity to algae/aquatic plants	:	EC50 (<i>Pseudokirchneriella subcapitata</i> (microalgae)): 3.6 mg/l End point: Biomass Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: EPA GLP: yes
		EC50 (<i>Skeletonema costatum</i> (marine diatom)): 7.7 mg/l End point: Biomass Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: EPA GLP: yes
Toxicity to fish (Chronic toxicity)	:	Chronic Toxicity Value (Fish): 1.13 mg/l Exposure time: 30 d Analytical monitoring: no Method: Expert judgement GLP: no
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (<i>Ceriodaphnia spec.</i>): 0.96 mg/l End point: Reproduction rate Exposure time: 7 d Test Type: semi-static test Analytical monitoring: yes Method: Other GLP: no
Toxicity to microorganisms	:	EC50 (<i>Nitrosomonas sp.</i>): 96 mg/l Exposure time: 24 h Test Type: static test Analytical monitoring: no Method: Other GLP: no Remarks: The details of the toxic effect relate to the nominal concentration.
Toxicity to soil dwelling organisms	:	LC50 (<i>Eisenia fetida</i> (earthworms)): 0.047 mg/cm ² Exposure time: 48 h End point: mortality Method: OECD Test Guideline 207 GLP: no
Plant toxicity	:	Remarks: Not applicable

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Sediment toxicity : Remarks: Not applicable

Toxicity to terrestrial organisms : Remarks: Not applicable

Ecotoxicology Assessment

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

Persistence and degradability**Components:****Toluene:**

Biodegradability : aerobic
Result: Readily biodegradable.
Biodegradation: 86 %
Exposure time: 20 d

Physico-chemical removability : Remarks: Biodegradable

Xylene:

Biodegradability : aerobic
Inoculum: activated sludge, non-adapted
Concentration: 41 mg/l
BOD in % of theoretical OD
Result: Readily biodegradable.
Biodegradation: 87.8 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
GLP: yes

Ethylbenzene:

Biodegradability : aerobic
Inoculum: activated sludge
Concentration: 22 mg/l
Dissolved organic carbon (DOC)
Result: Readily biodegradable.
Biodegradation: 70 - 80 %
Exposure time: 28 d
Method: ISO/DIS 14853
GLP: yes

Photodegradation : Test Type: air
Concentration: 500000 molecule/cm³
Rate constant: 7,1E-12 cm³/(molecule*sec)
Degradation (indirect photolysis): 50 % Degradation half life:
2.3 d
GLP: No information available.

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Bioaccumulative potential**Components:****Toluene:**

Bioaccumulation : Bioconcentration factor (BCF): 90
Remarks: Does not bioaccumulate.

Xylene:

Bioaccumulation : Species: Oncorhynchus mykiss (rainbow trout)
Bioconcentration factor (BCF): 7.2 - 25.9
Exposure time: 56 d
Concentration: 0.36 - 0.74 mg/l
Method: Other
GLP: No information available.

Ethylbenzene:

Bioaccumulation : Species: Oncorhynchus kisutch (coho salmon)
Bioconcentration factor (BCF): 1
Exposure time: 42 d
Concentration: 0.005 mg/l
Method: Other
GLP: No information available.

Mobility in soil**Components:****Toluene:**

Distribution among environmental compartments : Remarks: The product evaporates readily.

Xylene:

Distribution among environmental compartments : Adsorption/Soil
Medium: water - soil
log Koc: 2.73
Method: OECD Test Guideline 121

Ethylbenzene:

Distribution among environmental compartments : Adsorption/Soil
log Koc: 2.71
Method: estimated

Other adverse effects**Product:**

Additional ecological information : no data available

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Components:**Toluene:**

- 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.

Xylene:

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

Ethylbenzene:

- 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.
- 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 Act Waste Code : Yes -- If it becomes a waste as sold.
- Waste Code : D001
- Waste from residues : Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities.

SECTION 14. TRANSPORT INFORMATION**DOT Regulation:**

UN/NA-number: UN 1993

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Proper shipping name: Flammable liquids, n.o.s.
 Technical Name: TOLUENE
 Solvent Naphtha

Primary hazard class: 3
 Packing group: II
 Reportable Quantity: 756.000 kg TOLUENE

Emergency Response Guide: 128

IATA

UN/ID number: UN 1993
 Proper shipping name: Flammable liquid, n.o.s.
 Hazard inducer(s): TOLUENE
 Solvent Naphtha

Primary risk: 3
 Packing group: II
 Remarks: Shipment permitted

IMDG

UN no.: UN 1993
 Proper shipping name: Flammable liquid, n.o.s.
 Hazard inducer(s): TOLUENE
 Solvent Naphtha

Primary risk: 3
 Packing group: II
 EmS: F-E S-E

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)
Toluene	108-88-3	1000	1818

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

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

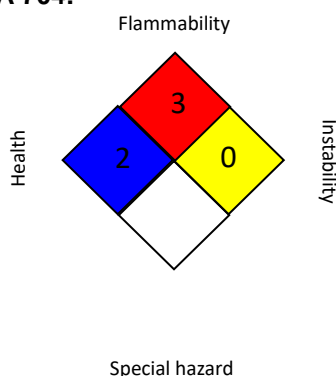
Toluene	108-88-3	50 - 70 %
Xylene	1330-20-7	1 - 5 %
Ethylbenzene	100-41-4	0.1 - 1 %

Clean Water Act

Contains priority pollutants toluene and ethylbenzene at greater than 0.1%. 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
 OSHA Z-2 : USA. Occupational Exposure Limits (OSHA) - Table Z-2
 ACGIH / TWA : 8-hour, time-weighted average

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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
OSHA Z-2 / TWA	:	8-hour time weighted average
OSHA Z-2 / CEIL	:	Acceptable ceiling concentration
OSHA Z-2 / Peak	:	Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift

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 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.

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