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29 CFR 1910.1200 (OSHA HazCom 2012)

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier


Trade name : Valvoline Professional Series™ Fuel Rail Cleaner
™ Trademark, Valvoline or its subsidiaries, registered in various countries

Details of the supplier of the safety data sheet Valvoline LLC 100 Valvoline Way Lexington, KY 40509 United States of America (USA) 1-800-TEAMVAL (1-800-832-6825) SDS@valvoline.com	Emergency telephone number 1-800-VALVOLINE (1-800-825-8654) Regulatory Information Number 1-800-TEAMVAL (1-800-832-6825) Product Information 1-800-TEAMVAL (1-800-832-6825)
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SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids : Category 2
Acute toxicity (Inhalation) : Category 4
Acute toxicity (Dermal) : Category 4
Skin corrosion : Category 1B
Serious eye damage : Category 1
Carcinogenicity : Category 2
Reproductive toxicity : Category 1B
Specific target organ systemic toxicity - single exposure : Category 3 (Respiratory system, Central nervous system)
Specific target organ systemic toxicity - repeated exposure : Category 2 (Auditory system, Gastro-intestinal system, Liver, Immune system)

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Specific target organ systemic toxicity - repeated exposure (Inhalation) : Category 2 (Neurologic: other (neuropsychological effects, auditory dysfunction and effects on colour vision))

Aspiration hazard : Category 1

GHS label elements

Hazard pictograms : 

Signal Word : Danger

Hazard Statements : Highly flammable liquid and vapor.
May be fatal if swallowed and enters airways.
Harmful in contact with skin or if inhaled.
Causes severe skin burns and eye damage.
May cause respiratory irritation.
May cause drowsiness or dizziness.
Suspected of causing cancer.
May damage fertility or the unborn child.
May cause damage to organs (Auditory system, Gastro-intestinal system, Liver, Immune system) through prolonged or repeated exposure.
May cause damage to organs (Neurologic: other (neuropsychological effects, auditory dysfunction and effects on colour vision)) through prolonged or repeated exposure if inhaled.

Precautionary Statements : **Prevention:**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ ventilating/ lighting/ equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
Wash skin thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
IF SWALLOWED: Immediately call a POISON CENTER/doctor.

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IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
 IF ON SKIN (or hair): Take off immediately all contaminated
 clothing. Rinse skin with water/shower.
 IF INHALED: Remove person to fresh air and keep comfortable
 for breathing. Immediately call a POISON CENTER/doctor.
 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.
 IF exposed or concerned: Get medical advice/ attention.
 Wash contaminated clothing before reuse.
 In case of fire: Use dry sand, dry chemical or alcohol-resistant
 foam to extinguish.

Storage:

Store in a well-ventilated place. Keep container tightly closed.
 Store in a well-ventilated place. Keep cool.
 Store locked up.

Disposal:

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

Other hazards

Static-accumulating flammable liquid.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Defatter

Hazardous components

Chemical name	CAS-No.	Classification	Concentration (%)
XYLENE	1330-20-7	Flam. Liq. 3; H226 Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Irrit. 2A; H319 STOT SE 3; H335, H336 Asp. Tox. 1; H304	>=15.00 - < 20.00
ETHYLENE GLYCOL MONOBUTYL ETHER	111-76-2	Flam. Liq. 4; H227 Acute Tox. 4; H302	>=15.00 - < 20.00

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		Acute Tox. 4; H332 Acute Tox. 3; H311 Skin Irrit. 2; H315 Eye Irrit. 2A; H319	
ISOPROPANOL	67-63-0	Flam. Liq. 2; H225 Eye Irrit. 2A; H319 STOT SE 3; H336	>=15.00 - < 20.00
POLY[OXY(1,2-PROPANEDIYL)], ALPHA, -(3-AMINOPROPYL)- ,OMEGA.-HYDROXY-,C12-C15 ALKYL ETHERS		Skin Irrit. 2; H315 Eye Dam. 1; H318	>=15.00 - < 20.00
TOLUENE	108-88-3	Flam. Liq. 2; H225 Skin Irrit. 2; H315 Eye Irrit. 2A; H319 Repr. 2; H361d STOT SE 3; H336 STOT RE 2; H373 Asp. Tox. 1; H304	>=10.00 - < 15.00
ETHYL BENZENE	100-41-4	Flam. Liq. 2; H225 Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2A; H319 Carc. 2; H351 STOT RE 2; H373 Asp. Tox. 1; H304	>=5.00 - < 10.00

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MORPHOLINE	110-91-8	Flam. Liq. 3; H226 Acute Tox. 4; H302 Acute Tox. 3; H331 Acute Tox. 3; H311 Skin Corr. 1A; H314 Eye Dam. 1; H318	>=3.00 - < 5.00
METHYL-N 2-PYRROLIDONE	872-50-4	Flam. Liq. 4; H227 Skin Irrit. 2; H315 Eye Irrit. 2A; H319 Repr. 1B; H360 STOT SE 3; H335	>=1.50 - < 5.00
TRIETHANOLAMINE	102-71-6	Eye Irrit. 2A; H319	>=1.50 - < 5.00
OLEYLAMINE	112-90-3	Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 STOT RE 2; H373 Asp. Tox. 1; H304	>=3.00 - < 5.00
Poly[oxy(1,2-propanediyl)].alpha.-propyl-.omega.-hydroxy-C12-15 alkyl ethers		Skin Irrit. 2; H315 Eye Dam. 1; H318	>=1.00 - < 1.50

SECTION 4. FIRST AID MEASURES



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- General advice : Move out of dangerous area.
 Consult a physician.
 Show this safety data sheet to the doctor in attendance.
 Symptoms of poisoning may appear several hours later.
 Do not leave the victim unattended.
- If inhaled : Move to fresh air.
 Keep patient warm and at rest.
 If unconscious, place in recovery position and seek medical advice.
 Consult a physician after significant exposure.
- In case of skin contact : If on skin, rinse well with water.
 Wash contaminated clothing before re-use.
 If on clothes, remove clothes.
- In case of eye contact : In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 Continue rinsing eyes during transport to hospital.
 Remove contact lenses.
 Protect unharmed eye.
- If swallowed : Get medical attention immediately.
 Do NOT induce vomiting.
 Rinse mouth with water.
 Do not give milk or alcoholic beverages.
 Never give anything by mouth to an unconscious person.
 If symptoms persist, call a physician.
- Most important symptoms and effects, both acute and delayed : Inhalation of high concentrations of this material, as could occur in enclosed spaces or during deliberate abuse, may be associated with cardiac arrhythmias. Sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to this material.
 Administration of high doses of isopropanol in combination with known hepatotoxic chemicals resulted in enhanced liver toxicity in experimental animals.
 Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:
 redness of the skin
 stomach or intestinal upset (nausea, vomiting, diarrhea)
 irritation (nose, throat, airways)
 Cough
 discomfort in the chest
 temporary changes in mood and behavior
 effects on memory
 Shortness of breath
 confusion
 irregular heartbeat



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Bloody urine
 lung edema (fluid buildup in the lung tissue)
 Difficulty in breathing
 May be fatal if swallowed and enters airways.
 Harmful in contact with skin or if inhaled.
 Causes serious eye damage.
 May cause respiratory irritation.
 May cause drowsiness or dizziness.
 Suspected of causing cancer.
 May damage fertility or the unborn child.
 May cause damage to organs through prolonged or repeated exposure.
 Causes severe burns.

Notes to physician : No hazards which require special first aid measures.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
 Water spray
 Foam
 Alcohol-resistant foam
 Carbon dioxide (CO2)
 Dry chemical

Unsuitable extinguishing media : High volume water jet

Specific hazards during firefighting : Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.
 Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
 Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : carbon dioxide and carbon monoxide
 Hydrocarbons
 Aldehydes
 Ketones
 Organic acids
 formaldehyde
 Ammonia
 Nitrogen oxides (NOx)

 carbon dioxide and carbon monoxide
 Hydrocarbons

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- Aldehydes
- Ketones
- Organic acids
- formaldehyde
- nitrogen compounds
- Ammonia
- Nitrogen oxides (NOx)
- nitrogen oxides (NOx)

- Specific extinguishing methods :
 Product is compatible with standard fire-fighting agents.
- Further information : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Use a water spray to cool fully closed containers.
- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Evacuate personnel to safe areas.
 Remove all sources of ignition.
 Use personal protective equipment.
 Ensure adequate ventilation.
 Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
 Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.
- Environmental precautions : Prevent product from entering drains.
 Prevent further leakage or spillage if safe to do so.
 If the product contaminates rivers and lakes or drains inform respective authorities.
- 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).
- Other information : Comply with all applicable federal, state, and local regulations.
 Suppress (knock down) gases/vapours/mists with a water spray jet.

SECTION 7. HANDLING AND STORAGE

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Advice on safe handling : Open drum carefully as content may be under pressure.
 Avoid formation of aerosol.
 Provide sufficient air exchange and/or exhaust in work rooms.
 Do not breathe vapours/dust.
 Do not smoke.
 Container hazardous when empty.
 Take precautionary measures against static discharges.
 Avoid exposure - obtain special instructions before use.
 Avoid contact with skin and eyes.
 Smoking, eating and drinking should be prohibited in the application area.
 For personal protection see section 8.
 Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
 Containers which are opened must be carefully resealed and kept upright to prevent leakage.
 Observe label precautions.
 No smoking.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
XYLENE	1330-20-7	STEL	150 ppm 655 mg/m3	CAL PEL
		C	300 ppm	CAL PEL
		PEL	100 ppm 435 mg/m3	CAL PEL
		TWA	100 ppm 435 mg/m3	OSHA Z-1
		TWA	100 ppm	ACGIH
		STEL	150 ppm	ACGIH
		STEL	150 ppm 655 mg/m3	OSHA P0
		TWA	100 ppm 435 mg/m3	OSHA P0
ETHYLENE GLYCOL MONOBUTYL ETHER	111-76-2	TWA	20 ppm	ACGIH
		TWA	5 ppm 24 mg/m3	NIOSH REL



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		TWA	50 ppm 240 mg/m3	OSHA Z-1
		TWA	25 ppm 120 mg/m3	OSHA P0
		PEL	20 ppm 97 mg/m3	CAL PEL
ISOPROPANOL	67-63-0	TWA	200 ppm	ACGIH
		STEL	400 ppm	ACGIH
		TWA	400 ppm 980 mg/m3	NIOSH REL
		ST	500 ppm 1,225 mg/m3	NIOSH REL
		TWA	400 ppm 980 mg/m3	OSHA Z-1
		TWA	400 ppm 980 mg/m3	OSHA P0
		STEL	500 ppm 1,225 mg/m3	OSHA P0
		PEL	400 ppm 980 mg/m3	CAL PEL
		STEL	500 ppm 1,225 mg/m3	CAL PEL
TOLUENE	108-88-3	TWA	20 ppm	ACGIH
		TWA	100 ppm 375 mg/m3	NIOSH REL
		ST	150 ppm 560 mg/m3	NIOSH REL
		TWA	200 ppm	OSHA Z-2
		CEIL	300 ppm	OSHA Z-2
		Peak	500 ppm	OSHA Z-2
		TWA	100 ppm 375 mg/m3	OSHA P0
		STEL	150 ppm 560 mg/m3	OSHA P0
		PEL	10 ppm 37 mg/m3	CAL PEL
		C	500 ppm	CAL PEL
		STEL	150 ppm 560 mg/m3	CAL PEL
ETHYL BENZENE	100-41-4	TWA	20 ppm	ACGIH
		TWA	100 ppm 435 mg/m3	NIOSH REL
		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

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		STEL	125 ppm 545 mg/m3	OSHA P0
		PEL	5 ppm 22 mg/m3	CAL PEL
		STEL	30 ppm 130 mg/m3	CAL PEL
MORPHOLINE	110-91-8	TWA	20 ppm	ACGIH
		TWA	20 ppm 70 mg/m3	NIOSH REL
		ST	30 ppm 105 mg/m3	NIOSH REL
		TWA	20 ppm 70 mg/m3	OSHA Z-1
		TWA	20 ppm 70 mg/m3	OSHA P0
		STEL	30 ppm 105 mg/m3	OSHA P0
		STEL	30 ppm 105 mg/m3	CAL PEL
		PEL	20 ppm 70 mg/m3	CAL PEL
METHYL-N 2-PYRROLIDONE	872-50-4	TWA	10 ppm	US WEEL
		PEL	1 ppm 4 mg/m3	CAL PEL
TRIETHANOLAMINE	102-71-6	TWA	5 mg/m3	ACGIH
		PEL	5 mg/m3	CAL PEL

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
XYLENE	1330-20-7	Methylhippuric acids	Urine	End of shift (As soon as possible after exposure ceases)	1.5 g/g creatinine	ZUS_A CGIHB
ETHYLENE GLYCOL MONOBUTYL ETHER	111-76-2	Butoxyacetic acid (BAA)	Urine	End of shift (As soon as possible after exposure ceases)	200 mg/g Creatinine	ZUS_A CGIHB
ISOPROPANOL	67-63-0	Acetone	Urine	End of shift at end of workweek	40 mg/l	ZUS_A CGIHB
TOLUENE	108-88-3	Toluene	In blood	Prior to	0.02 mg/l	ZUS_A

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				last shift of workweek		CGIHB
		Toluene	Urine	End of shift (As soon as possible after exposure ceases)	0.03 mg/l	ZUS_A CGIHB
		o-Cresol	Urine	End of shift (As soon as possible after exposure ceases)	0.3 mg/g Creatinine	ZUS_A CGIHB
ETHYL BENZENE	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	ZUS_A CGIHB
METHYL-N 2-PYRROLIDONE	872-50-4	5-Hydroxy-N-methyl-2-pyrrolidone	Urine	End of shift (As soon as possible after exposure ceases)	100 mg/l	ZUS_A CGIHB

Engineering measures : Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Personal protective equipment

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.

A NIOSH-approved air-purifying respirator with an appropriate cartridge and/or filter may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits (if applicable) or if overexposure has otherwise been determined. Protection provided by air-purifying respirators is limited. Use a positive pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are not known or any other circumstances where an air-purifying respirator may not



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provide adequate protection.

- Hand protection
Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.
- Eye protection : Wear chemical splash goggles and face shield when there is potential for exposure of the eyes or face to liquid, vapor or mist.
Maintain eye wash station in immediate work area.
- Skin and body protection : Wear as appropriate:
Impervious clothing
Chemical resistant apron
Safety shoes
Flame-resistant clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Discard gloves that show tears, pinholes, or signs of wear.
Wear resistant gloves (consult your safety equipment supplier).
- Hygiene measures : Wash hands before breaks and at the end of workday.
When using do not eat or drink.
Ensure that eyewash stations and safety showers are close to the workstation location.
When using do not smoke.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical state : liquid
- Odour : No data available
- Odour Threshold : No data available
- pH : No data available
- Melting point/freezing point : No data available
- Boiling point/boiling range : 231.1 °F / 110.6 °C
Calculated Phase Transition Liquid/Gas
- Flash point : 39.99 °F / 4.44 °C
Calculated Flash Point
- Evaporation rate : No data available
- Flammability (solid, gas) : No data available

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Flammability (liquids)	:	
Flammability (liquids)	:	Static-accumulating flammable liquid.
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	44 hPa (20 °C) Calculated Vapor Pressure
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	0.860 g/cm ³
Solubility(ies)	:	
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Thermal decomposition	:	No data available
Viscosity	:	
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Oxidizing properties	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	Stable under recommended storage conditions.
Possibility of hazardous reactions	:	Vapours may form explosive mixture with air.
Conditions to avoid	:	Heat, flames and sparks.

This product should not be heated above 140 degrees F (60 degrees C) in the presence of aluminum due to excessive corrosion and potential chemical reaction releasing flammable hydrogen gas.



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excessive heat
Do not allow evaporation to dryness.
Exposure to air.
Exposure to moisture
Exposure to light.

Incompatible materials

- : Acids
- acrylates
- Alcohols
- Aldehydes
- Amines
- Ammonia
- Bases
- chlorates
- Chlorine
- Ethylene oxide
- glycols
- halogenated hydrocarbons
- halogens
- isocyanates
- Ketones
- nitrites and other nitrosating agents
- organic anhydrides
- organic halides
- phenols
- Reducing agents
- salts of strong bases
- strong alkalis
- Strong oxidizing agents
- Do not use with aluminum equipment at temperatures above 49C or 120 degrees F.

Hazardous decomposition products

- Aldehydes
- carbon dioxide and carbon monoxide
- formaldehyde-like
- Hydrocarbons
- nitrogen compounds
- Nitrogen oxides (NOx)
- Organic acids
- Ammonia
- ketones

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

- Inhalation
- Skin contact

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Eye Contact

Ingestion

Acute toxicity

Harmful in contact with skin or if inhaled.

Product:

Acute oral toxicity : Acute toxicity estimate: 3,224 mg/kg
 Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: 4.56 mg/l
 Exposure time: 4 h
 Test atmosphere: dust/mist
 Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: 1,200 mg/kg
 Method: Calculation method

Components:**XYLENE:**

Acute oral toxicity : LD50 (Rat): 3,523 - 8,600 mg/kg

Acute inhalation toxicity : LC50 (Rat): 6700 ppm
 Exposure time: 4 h
 Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): 1,700 mg/kg

ETHYLENE GLYCOL MONOBUTYL ETHER:

Acute oral toxicity : LD50 (Guinea pig): 1,200 mg/kg

Acute inhalation toxicity : LC50 (Rat): 2.17 mg/l
 Exposure time: 4 h
 Test atmosphere: dust/mist
 Assessment: The component/mixture is classified as acute
 inhalation toxicity, category 4.

Acute dermal toxicity : LD50 (Rabbit): 400 - 500 mg/kg

ISOPROPANOL:

Acute oral toxicity : LD50 (Rat): 5.84 g/kg

Acute inhalation toxicity : LC50 (Rat): 16000 ppm
 Exposure time: 4 h
 Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): 12,800 mg/kg

TOLUENE:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): 8000 ppm

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Exposure time: 4 h
 Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): 12,124 mg/kg

ETHYL BENZENE:

Acute oral toxicity : LD50 (Rat): ca. 3,500 mg/kg

Acute inhalation toxicity : LC50 (Rat): 4000 ppm
 Exposure time: 4 h
 Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): 17,800 mg/kg

MORPHOLINE:

Acute oral toxicity : LD50 (Rat): ca. 1,900 mg/kg
 Method: OECD Test Guideline 401

Acute inhalation toxicity : Test atmosphere: vapour
 Assessment: The component/mixture is classified as acute
 inhalation toxicity, category 3.

Acute dermal toxicity : LD50 (Rabbit): ca. 500 mg/kg

METHYL-N 2-PYRROLIDONE:

Acute oral toxicity : LD50 (Rat): 4,150 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 5.1 mg/l
 Exposure time: 4 h
 Test atmosphere: dust/mist
 Assessment: Not classified as acutely toxic by inhalation
 under GHS.

Acute dermal toxicity : LD50 (Rabbit): 8,000 mg/kg

TRIETHANOLAMINE:

Acute oral toxicity : LD50 (Rat): 6,400 mg/kg

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
 Method: OECD Test Guideline 402
 Assessment: Not classified as acutely toxic by dermal
 absorption under GHS.
 Remarks: No mortality observed at this dose.

OLEYLAMINE:

Acute oral toxicity : LD50 (Rat): 1,950 mg/kg
 Remarks: Information given is based on data obtained from
 similar substances.

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Skin corrosion/irritation

Causes severe burns.

Product:

Result : Repeated exposure may cause skin dryness or cracking.

Remarks : Causes severe skin burns and eye damage.

Components:

XYLENE:

Assessment : Irritating to skin.

Result : Irritating to skin.

ETHYLENE GLYCOL MONOBUTYL ETHER:

Species : Rabbit

Result : Irritating to skin.

ISOPROPANOL:

Result : Slight, transient irritation

POLY[OXY(1,2-PROPANEDIYL)], ALPHA,-(3-AMINOPROPYL)-,OMEGA-HYDROXY-,C12-C15 ALKYL ETHERS:

Result : Irritating to skin.

TOLUENE:

Result : Irritating to skin.

ETHYL BENZENE:

Result : Irritating to skin.

MORPHOLINE:

Species : Rabbit

Method : OECD Test Guideline 404

Result : Corrosive after 3 minutes or less of exposure

METHYL-N 2-PYRROLIDONE:

Assessment : Irritating to skin.

Result : irritating

TRIETHANOLAMINE:

Result : Slight, transient irritation

OLEYLAMINE:

Result : Corrosive after 3 minutes to 1 hour of exposure

Poly[oxy(1,2-propanediyl)].alpha.-propyl.-omega.-hydroxy-C12-15 alkyl ethers:

Assessment : Irritating to skin.

Result : Irritating to skin.

Serious eye damage/eye irritation

Causes serious eye damage.

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Product:

Remarks : May cause irreversible eye damage.

Components:**XYLENE:**

Result : Irritating to eyes.

ETHYLENE GLYCOL MONOBUTYL ETHER:

Species : Rabbit

Result : Irritating to eyes.

ISOPROPANOL:

Result : Irritating to eyes.

POLY[OXY(1,2-PROPANEDIYL)], ALPHA, -(3-AMINOPROPYL)-, OMEGA-HYDROXY-, C12-C15 ALKYL ETHERS:

Result : Risk of serious damage to eyes.

TOLUENE:

Result : Irritating to eyes.

ETHYL BENZENE:

Result : Irritating to eyes.

MORPHOLINE:

Species : Rabbit

Result : Corrosive

Method : OECD Test Guideline 405

METHYL-N 2-PYRROLIDONE:

Result : Irritation to eyes, reversing after 7 to 21 days

Assessment : Irritating to eyes.

TRIETHANOLAMINE:

Species : Rabbit

Result : Irritating to eyes.

OLEYLAMINE:

Result : Corrosive

Poly[oxy(1,2-propanediyl)].alpha.-propyl.-omega.-hydroxy-C12-15 alkyl ethers:

Result : Risk of serious damage to eyes.

Respiratory or skin sensitisation**Skin sensitisation**

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

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Components:**ETHYLENE GLYCOL MONOBUTYL ETHER:**

Test Type : Maximisation Test
Species : Guinea pig
Assessment : Does not cause skin sensitisation.
Method : OECD Test Guideline 406

**POLY[OXY(1,2-PROPANEDIYL)], ALPHA,-(3-AMINOPROPYL)-,OMEGA.-HYDROXY-,C12-C15
ALKYL ETHERS:**

Assessment : Does not cause skin sensitisation.

METHYL-N 2-PYRROLIDONE:

Assessment : Does not cause skin sensitisation.
Result : Did not cause sensitisation on laboratory animals.

TRIETHANOLAMINE:

Test Type : Maximisation Test
Assessment : Does not cause skin sensitisation.

Germ cell mutagenicity

Not classified based on available information.

Components:**ETHYLENE GLYCOL MONOBUTYL ETHER:**

Genotoxicity in vitro : Test Type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Result: negative

MORPHOLINE:

Genotoxicity in vitro : Test Type: unscheduled DNA synthesis assay
Test system: rat hepatocytes
Metabolic activation: without metabolic activation
Method: OECD Test Guideline 482
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells
Metabolic activation: without metabolic activation
Method: OECD Test Guideline 476
Result: positive

METHYL-N 2-PYRROLIDONE:

Genotoxicity in vitro : Remarks: In vitro tests did not show mutagenic effects

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse
Application Route: Oral
Result: negative

Test Type: chromosome aberration assay

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Species: Chinese hamster
Application Route: Oral
Result: negative

Carcinogenicity

Suspected of causing cancer.

Components:**METHYL-N 2-PYRROLIDONE:**

Species : Rat
Application Route : Oral
NOAEL : 678 mg/kg body weight

Species : Rat
Application Route : inhalation (dust/mist/fume)
NOAEL : 0.4 mg/l

IARC Group 2B: Possibly carcinogenic to humans
Ethylbenzene Not Assigned

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

May damage fertility or the unborn child.

Components:**TOLUENE:**

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

METHYL-N 2-PYRROLIDONE:

Effects on fertility : Species: Rat
Application Route: Ingestion
Fertility: NOAEL Parent: 350
Result: Animal testing did not show any effects on fertility.

Effects on foetal development : Species: Rat
Application Route: inhalation (dust/mist/fume)
Dose: 0,12, 0,25, 0,49 milligram per liter
General Toxicity Maternal: NOAEC: 123 mg/m³
Teratogenicity: NOAEC F1: 494 mg/m³
Developmental Toxicity: NOAEC: 247 mg/m³

Species: Rat
Application Route: Oral
Dose: 0, 125, 250, 500, 750 milligram per kilogram
General Toxicity Maternal: NOAEL: 250 mg/kg body weight
Developmental Toxicity: NOAEL F1: 125 mg/kg body weight

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Species: Rat
Application Route: Dermal
Dose: 0, 75, 237, 750 milligram per kilogram
General Toxicity Maternal: NOAEL: 237 mg/kg body weight
Teratogenicity: NOAEL F1: 237 mg/kg body weight
Developmental Toxicity: NOAEL F1: 237 mg/kg body weight

Reproductive toxicity - Assessment : Clear evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments

STOT - single exposure

May cause respiratory irritation.
May cause drowsiness or dizziness.

Components:**XYLENE:**

Assessment : May cause respiratory irritation.

Assessment : May cause drowsiness or dizziness.

ISOPROPANOL:

Assessment : May cause drowsiness or dizziness.

TOLUENE:

Exposure routes : Inhalation
Target Organs : Central nervous system
Assessment : May cause drowsiness or dizziness.

METHYL-N 2-PYRROLIDONE:

Exposure routes : Inhalation
Target Organs : Nose
Assessment : May cause respiratory irritation.

STOT - repeated exposure

May cause damage to organs (Auditory system, Gastro-intestinal system, Liver, Immune system) through prolonged or repeated exposure.

May cause damage to organs (Neurologic: other (neuropsychological effects, auditory dysfunction and effects on colour vision)) through prolonged or repeated exposure if inhaled.

Components:**TOLUENE:**

Exposure routes : Inhalation
Target Organs : Neurologic: other (neuropsychological effects, auditory dysfunction and effects on colour vision)
Assessment : May cause damage to organs through prolonged or repeated exposure.

ETHYL BENZENE:

Target Organs : Auditory system
Assessment : May cause damage to organs through prolonged or repeated exposure.

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OLEYLAMINE:

Target Organs : Gastro-intestinal system, Liver, Immune system
 Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

Repeated dose toxicity

Components:

METHYL-N 2-PYRROLIDONE:

Species : Rat
 NOAEL : 169 mg/kg
 Application Route : Ingestion
 Exposure time : 28 d

Species : Rat
 NOAEL : 0.5 mg/l
 Application Route : Inhalation
 Test atmosphere : dust/mist
 Exposure time : 28 d

Species : Rabbit
 NOAEL : 826 mg/kg
 Application Route : Skin contact
 Exposure time : 28 d

Aspiration toxicity

May be fatal if swallowed and enters airways.

Components:

XYLENE:

May be fatal if swallowed and enters airways.

TOLUENE:

May be fatal if swallowed and enters airways.

ETHYL BENZENE:

May be fatal if swallowed and enters airways.

OLEYLAMINE:

May be fatal if swallowed and enters airways.

Further information

Product:

Remarks : Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
 Concentrations substantially above the TLV value may cause narcotic effects.
 Solvents may degrease the skin.

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Components:

ISOPROPANOL:

Remarks : Central nervous system

ETHYL BENZENE:

Remarks : Central nervous system

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Ecotoxicology Assessment

Short-term (acute) aquatic hazard : Acute aquatic toxicity Category 1; Very toxic to aquatic life.

Long-term (chronic) aquatic hazard : Chronic aquatic toxicity Category 1; Very toxic to aquatic life with long lasting effects.

Components:

XYLENE:

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): > 100 - < 1,000 mg/l
 Exposure time: 24 h
 Test Type: static test

ETHYLENE GLYCOL MONOBUTYL ETHER:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 1,474 mg/l
 Exposure time: 96 h
 Test Type: static test
 Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1,550 mg/l
 Exposure time: 48 h
 Test Type: static test
 Method: OECD Test Guideline 202

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): 911 mg/l
 End point: Growth inhibition
 Exposure time: 72 h
 Test Type: static test
 Method: OECD Test Guideline 201

Toxicity to fish (Chronic toxicity) : NOEC (Danio rerio (zebra fish)): > 100 mg/l
 Exposure time: 21 d
 Test Type: semi-static test
 Method: OECD Test Guideline 204

ISOPROPANOL:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 5,770 - 7,450

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mg/l
 Exposure time: 96 h
 Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): > 10,000 mg/l
 Exposure time: 24 h
 Test Type: static test

POLY[OXY(1,2-PROPANEDIYL)], ALPHA,-(3-AMINOPROPYL)-,OMEGA.-HYDROXY-,C12-C15 ALKYL ETHERS:

Ecotoxicology Assessment
 Short-term (acute) aquatic hazard : Very toxic to aquatic life.

Long-term (chronic) aquatic hazard : Very toxic to aquatic life with long lasting effects.

TOLUENE:

Toxicity to fish : LC50 (Oncorhynchus kisutch (coho salmon)): 5.5 mg/l
 Exposure time: 96 h
 Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates : EC50 (Water flea (Ceriodaphnia dubia)): 3.78 mg/l
 Exposure time: 48 h
 Remarks: Mortality

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (microalgae)): > 433 mg/l
 End point: Growth inhibition
 Exposure time: 96 h

NOEC (Scenedesmus quadricauda (Green algae)): > 400 mg/l
 End point: Growth inhibition
 Exposure time: 7 d

Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 1.39 mg/l
 Exposure time: 40 d
 Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Water flea (Ceriodaphnia dubia)): 0.74 mg/l
 Exposure time: 7 d

Ecotoxicology Assessment
 Short-term (acute) aquatic hazard : Acute aquatic toxicity Category 2; Toxic to aquatic life.

Long-term (chronic) aquatic hazard : Chronic aquatic toxicity Category 3; Harmful to aquatic life with long lasting effects.

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ETHYL BENZENE:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 9.1 - 15.6
 mg/l
 Exposure time: 96 h
 Test Type: static test

LC50 (Oncorhynchus mykiss (rainbow trout)): 4.2 mg/l
 Exposure time: 96 h
 Test Type: Renewal

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 1.37 - 4.4 mg/l
 aquatic invertebrates
 Exposure time: 48 h
 Test Type: static test

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): 3.6
 mg/l
 End point: Growth inhibition
 Exposure time: 96 h

Ecotoxicology Assessment :
 Short-term (acute) aquatic hazard : Acute aquatic toxicity Category 2; Toxic to aquatic life.

Long-term (chronic) aquatic hazard : Not classified based on available information.

MORPHOLINE:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 380 mg/l
 Exposure time: 96 h
 Test Type: static test

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 45 mg/l
 aquatic invertebrates
 Exposure time: 48 h
 Method: OECD Test Guideline 202

Toxicity to algae : ErC50 (Pseudokirchneriella subcapitata (green algae)): 28
 mg/l
 Exposure time: 96 h
 Test Type: static test

Toxicity to daphnia and other : NOEC (Daphnia magna (Water flea)): 5 mg/l
 aquatic invertebrates
 (Chronic toxicity)
 Exposure time: 21 d
 Test Type: semi-static test
 Method: OECD Test Guideline 211

METHYL-N 2-PYRROLIDONE:

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 832 mg/l
 Exposure time: 96 h

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- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1,000 mg/l
 Exposure time: 24 h
- Toxicity to algae : EC50 (Desmodesmus subspicatus (green algae)): 600 mg/l
 Exposure time: 72 h
 Test Type: Growth inhibition
- NOEC (Desmodesmus subspicatus (green algae)): 125 mg/l
 Exposure time: 72 h
 Test Type: Growth inhibition
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 12.5 mg/l
 Exposure time: 21 d
 End point: Reproduction Test
 Test Type: semi-static test
 Method: OECD Test Guideline 211
- Toxicity to bacteria : EC10 (activated sludge): 100 mg/l
- TRIETHANOLAMINE:**
 Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 11,800 mg/l
 Exposure time: 96 h
 Test Type: flow-through test
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Water flea (Ceriodaphnia dubia)): 609.88 mg/l
 Exposure time: 48 h
 Test Type: static test
- Toxicity to algae : EC50 (Desmodesmus subspicatus (green algae)): 216 - 512 mg/l
 Exposure time: 72 h
 Test Type: Growth inhibition
- OLEYLAMINE:**
 Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 0.11 mg/l
 Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.011 mg/l
 Exposure time: 48 h
- Toxicity to algae : EC50 (Desmodesmus subspicatus (green algae)): 0.083 mg/l
 Exposure time: 72 h
 Remarks: Information given is based on data obtained from similar substances.
- NOEC (Pseudokirchneriella subcapitata (green algae)): 0.01 mg/l
 Exposure time: 96 h
- M-Factor (Short-term (acute)) : 10

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aquatic hazard)

M-Factor (Long-term (chronic) aquatic hazard) : 10

Persistence and degradability

Components:

XYLENE:

Physico-chemical removability : Remarks: The product evaporates readily.

ETHYLENE GLYCOL MONOBUTYL ETHER:

Biodegradability : Result: Readily biodegradable.
 Biodegradation: 90.4 %
 Exposure time: 28 d
 Method: OECD Test Guideline 301B

TOLUENE:

Biodegradability : Result: Readily biodegradable.

ETHYL BENZENE:

Biodegradability : Result: Readily biodegradable.
 Biodegradation: 70 - 80 %
 Exposure time: 28 d

MORPHOLINE:

Biodegradability : Result: Readily biodegradable.
 Biodegradation: 92.6 %
 Exposure time: 22 d
 Method: OECD Test Guideline 301E

METHYL-N 2-PYRROLIDONE:

Biodegradability : Biodegradation: 73 %
 Exposure time: 28 d
 Method: OECD Test Guideline 301C
 Remarks: Readily biodegradable

Photodegradation :

TRIETHANOLAMINE:

Biodegradability : Result: Readily biodegradable.
 Biodegradation: 97 %
 Exposure time: 28 d

OLEYLAMINE:

Biodegradability : Result: Not readily biodegradable.
 Biodegradation: 44 %
 Exposure time: 28 d

No data available

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Bioaccumulative potential

Components:

XYLENE:

Partition coefficient: n-octanol/water : log Pow: 3.16

ETHYLENE GLYCOL MONOBUTYL ETHER:

Partition coefficient: n-octanol/water : log Pow: 0.83

ISOPROPANOL:

Partition coefficient: n-octanol/water : log Pow: 0.05

TOLUENE:

Bioaccumulation : Species: Ide, silver or golden orfe (Leuciscus idus)
 Bioconcentration factor (BCF): 94
 Exposure time: 3 d
 Concentration: 0.05 mg/l
 Method: Not reported

Partition coefficient: n-octanol/water : log Pow: 2.73

ETHYL BENZENE:

Partition coefficient: n-octanol/water : log Pow: 3.15

MORPHOLINE:

Partition coefficient: n-octanol/water : log Pow: -0.86

METHYL-N 2-PYRROLIDONE:

Bioaccumulation : Remarks: No bioaccumulation is to be expected (log Pow <= 3).

Partition coefficient: n-octanol/water : log Pow: -0.46 (25 °C)

TRIETHANOLAMINE:

Partition coefficient: n-octanol/water : log Pow: -1.00

OLEYLAMINE:

Bioaccumulation : Species: Fish
 Bioconcentration factor (BCF): > 500

Partition coefficient: n-octanol/water : log Pow: estimated > 4



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No data available

Mobility in soil

Components:

No data available

Other adverse effects

Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Very toxic to aquatic life with long lasting effects.

Components:

METHYL-N 2-PYRROLIDONE:

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

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

General advice : The product should not be allowed to enter drains, water courses or the soil.
 Do not contaminate ponds, waterways or ditches with chemical or used container.
 Send to a licensed waste management company.

 Dispose of in accordance with all applicable local, state and federal regulations.

Contaminated packaging : Empty remaining contents.
 Dispose of as unused product.
 Empty containers should be taken to an approved waste handling site for recycling or disposal.
 Do not re-use empty containers.
 Do not burn, or use a cutting torch on, the empty drum.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.
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U.S. DOT - ROAD

UN	1993	FLAMMABLE LIQUID, N.O.S. (TOLUENE, ISOPROPANOL)	3	II	LIMITED QUANTITY
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CFR_RAIL_C

UN	1993	FLAMMABLE LIQUID, N.O.S. (TOLUENE, ISOPROPANOL)	3	II	LIMITED QUANTITY
----	------	--	---	----	---------------------

U.S. DOT - INLAND WATERWAYS

UN	1993	FLAMMABLE LIQUID, N.O.S. (TOLUENE, ISOPROPANOL)	3	II	LIMITED QUANTITY
----	------	--	---	----	---------------------

TDG_ROAD_C

UN	1993	FLAMMABLE LIQUID, N.O.S. (TOLUENE, ISOPROPANOL)	3	II	LIMITED QUANTITY
----	------	--	---	----	---------------------

TDG_RAIL_C

UN	1993	FLAMMABLE LIQUID, N.O.S. (TOLUENE, ISOPROPANOL)	3	II	LIMITED QUANTITY
----	------	--	---	----	---------------------

TDG_INWT_C

UN	1993	FLAMMABLE LIQUID, N.O.S. (TOLUENE, ISOPROPANOL)	3	II	LIMITED QUANTITY
----	------	--	---	----	---------------------

INTERNATIONAL MARITIME DANGEROUS GOODS

UN	1993	FLAMMABLE LIQUID, N.O.S. (TOLUENE, ISOPROPANOL)	3	II	MARINE POLLUTANT:(POLYETHER AMINE, OLEYLAMINE) LIMITED QUANTITY
----	------	--	---	----	--

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

UN	1993	FLAMMABLE LIQUID, N.O.S. (TOLUENE, ISOPROPANOL)	3	II	
----	------	--	---	----	--

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

UN	1993	FLAMMABLE LIQUID, N.O.S. (TOLUENE, ISOPROPANOL)	3	II	
----	------	--	---	----	--

MX_DG



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UN	1993	FLAMMABLE LIQUID, N.O.S. (TOLUENE, ISOPROPANOL)	3	II
----	------	--	---	----

***ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

Marine pollutant	yes
------------------	-----

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

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)
XYLENE	1330-20-7	100	520

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

- SARA 311/312 Hazards** :
- Flammable (gases, aerosols, liquids, or solids)
 - Hazard not otherwise classified (physical hazards)
 - Acute toxicity (any route of exposure)
 - Skin corrosion or irritation
 - Serious eye damage or eye irritation
 - Reproductive toxicity
 - Specific target organ toxicity (single or repeated exposure)
 - Aspiration hazard

California Prop. 65

WARNING: Cancer - www.P65Warnings.ca.gov.

WARNING: Reproductive Harm - www.P65Warnings.ca.gov.

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

- DSL : All components of this product are on the Canadian DSL
- AICS : On the inventory, or in compliance with the inventory
- ENCS : Not in compliance with the inventory

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- KECI : On the inventory, or in compliance with the inventory
- PICCS : On the inventory, or in compliance with the inventory
- IECSC : On the inventory, or in compliance with the inventory
- TSCA : On TSCA Inventory

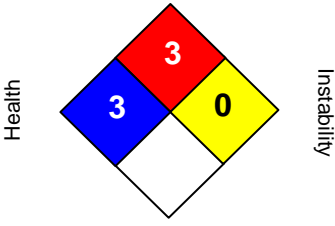
TSCA list

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Further information

Revision Date: 09/17/2018

NFPA:	HMIS III:						
<p style="text-align: center;">Flammability</p>  <p style="text-align: center;">Special hazard.</p>	<table border="1" style="width: 100%;"> <tr> <td style="background-color: blue; color: white;">HEALTH</td> <td style="text-align: center;">3*</td> </tr> <tr> <td style="background-color: red; color: white;">FLAMMABILITY</td> <td style="text-align: center;">3</td> </tr> <tr> <td style="background-color: yellow;">PHYSICAL HAZARD</td> <td style="text-align: center;">0</td> </tr> </table> <p>0 = not significant, 1 =Slight, 2 = Moderate, 3 = High 4 = Extreme, * = Chronic</p>	HEALTH	3*	FLAMMABILITY	3	PHYSICAL HAZARD	0
HEALTH	3*						
FLAMMABILITY	3						
PHYSICAL HAZARD	0						

NFPA Flammable and Combustible Liquids Classification

Flammable Liquid Class IB

Full text of H-Statements

- H225 Highly flammable liquid and vapor.
- H226 Flammable liquid and vapor.
- H227 Combustible liquid.
- H302 Harmful if swallowed.
- H304 May be fatal if swallowed and enters airways.
- H311 Toxic in contact with skin.
- H312 Harmful in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H315 Causes skin irritation.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.

**SAFETY DATA SHEET**

Revision Date: 09/17/2018

Print Date: 9/18/2019

SDS Number: 000000263719

Version: 1.5

Valvoline Professional Series™ Fuel Rail Cleaner
™ Trademark, Valvoline or its subsidiaries, registered in various
countries
884352

H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H360	May damage fertility or the unborn child.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.


Sources of key data used to compile the Safety Data Sheet
Valvoline internal data including own and sponsored test reports
The UNECE administers regional agreements implementing harmonised classification for
labelling (GHS) and transport.

The information accumulated herein is believed to be accurate but is not warranted to be whether
originating with the company or not. Recipients are advised to confirm in advance of need that the
information is current, applicable, and suitable to their circumstances. This SDS has been
prepared by Valvoline's Environmental Health and Safety Department (1-800-VALVOLINE).

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data
sheet :

ACGIH : American Conference of Industrial Hygienists
BEI : Biological Exposure Index
CAS : Chemical Abstracts Service (Division of the American Chemical Society).
CMR : Carcinogenic, Mutagenic or Toxic for Reproduction
FG : Food grade
GHS : Globally Harmonized System of Classification and Labeling of Chemicals.
H-statement : Hazard Statement
IATA : International Air Transport Association.
IATA-DGR : Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

ICAO : International Civil Aviation Organization
ICAO-TI (ICAO) : Technical Instructions by the "International Civil Aviation Organization"
IMDG : International Maritime Code for Dangerous Goods
ISO : International Organization for Standardization
logPow : octanol-water partition coefficient
LCxx : Lethal Concentration, for xx percent of test population
LDxx : Lethal Dose, for xx percent of test population.
ICxx : Inhibitory Concentration for xx of a substance
Ecxx : Effective Concentration of xx
N.O.S.: Not Otherwise Specified
OECD : Organization for Economic Co-operation and Development
OEL : Occupational Exposure Limit
P-Statement : Precautionary Statement

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PBT : Persistent , Bioaccumulative and Toxic
PPE : Personal Protective Equipment
STEL : Short-term exposure limit
STOT : Specific Target Organ Toxicity
TLV : Threshold Limit Value
TWA : Time-weighted average
vPvB : Very Persistent and Very Bioaccumulative
WEL : Workplace Exposure Level

CERCLA : Comprehensive Environmental Response, Compensation, and Liability Act
DOT : Department of Transportation
FIFRA : Federal Insecticide, Fungicide, and Rodenticide Act
HMIRC : Hazardous Materials Information Review Commission
HMIS : Hazardous Materials Identification System
NFPA : National Fire Protection Association
NIOSH : National Institute for Occupational Safety and Health
OSHA : Occupational Safety and Health Administration
PMRA : Health Canada Pest Management Regulatory Agency
RTK : Right to Know
WHMIS : Workplace Hazardous Materials Information System