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29 CFR 1910.1200 (OSHA HazCom 2012)

**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

**Product identifier**

Trade name : Valvoline Professional Series Gasoline Direct Injection Fuel Rail Cleaner


™ Trademark, Valvoline or its subsidiaries, registered in various countries

<b>Details of the supplier of the safety data sheet</b> Valvoline LLC 100 Valvoline Way Lexington, KY 40509 United States of America (USA) 1-800-TEAMVAL (1-800-832-6825)  SDS@valvoline.com	<b>Emergency telephone number</b> 1-800-VALVOLINE (1-800-825-8654)  <b>Regulatory Information Number</b> 1-800-TEAMVAL (1-800-832-6825)  <b>Product Information</b> 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 : Category 2 (Auditory system, Gastro-intestinal system, Liver,

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systemic toxicity - repeated exposure

Immune system)

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



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protection.

**Response:**

IF SWALLOWED: Immediately call a POISON CENTER/doctor.

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

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ETHYLENE GLYCOL MONOBUTYL ETHER	111-76-2	Flam. Liq. 4; H227 Acute Tox. 4; H302 Acute Tox. 4; H332 Acute Tox. 3; H311 Skin Irrit. 2; H315 Eye Irrit. 2A; H319	>=15.00 - < 20.00
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	>=5.00 - < 10.00

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		Carc. 2; H351 STOT RE 2; H373 Asp. Tox. 1; H304	
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		Skin Irrit. 2; H315	>=1.00 - < 1.50



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alkyl ethers		Eye Dam. 1; H318	
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**SECTION 4. FIRST AID MEASURES**

- 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)

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irritation (nose, throat, airways)  
Cough  
discomfort in the chest  
temporary changes in mood and behavior  
effects on memory  
Shortness of breath  
confusion  
irregular heartbeat  
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.

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## 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 (CO<sub>2</sub>)  
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

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Aldehydes  
 Ketones  
 Organic acids  
 formaldehyde  
 Ammonia  
 Nitrogen oxides (NOx)

carbon dioxide and carbon monoxide  
 Hydrocarbons  
 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.

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**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,



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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**

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	OSHA Z-1

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			435 mg/m <sup>3</sup>	
		TWA	100 ppm	ACGIH
		STEL	150 ppm	ACGIH
		STEL	150 ppm	OSHA P0
			655 mg/m <sup>3</sup>	
		TWA	100 ppm	OSHA P0
			435 mg/m <sup>3</sup>	
ETHYLENE GLYCOL MONOBUTYL ETHER	111-76-2	TWA	20 ppm	ACGIH
		TWA	5 ppm	NIOSH REL
			24 mg/m <sup>3</sup>	
		TWA	50 ppm	OSHA Z-1
			240 mg/m <sup>3</sup>	
		TWA	25 ppm	OSHA P0
			120 mg/m <sup>3</sup>	
		PEL	20 ppm	CAL PEL
			97 mg/m <sup>3</sup>	
ISOPROPANOL	67-63-0	TWA	200 ppm	ACGIH
		STEL	400 ppm	ACGIH
		TWA	400 ppm	NIOSH REL
			980 mg/m <sup>3</sup>	
		ST	500 ppm	NIOSH REL
			1,225 mg/m <sup>3</sup>	
		TWA	400 ppm	OSHA Z-1
			980 mg/m <sup>3</sup>	
		TWA	400 ppm	OSHA P0
			980 mg/m <sup>3</sup>	
		STEL	500 ppm	OSHA P0
			1,225 mg/m <sup>3</sup>	
		PEL	400 ppm	CAL PEL
			980 mg/m <sup>3</sup>	
		STEL	500 ppm	CAL PEL
			1,225 mg/m <sup>3</sup>	
TOLUENE	108-88-3	TWA	20 ppm	ACGIH
		TWA	100 ppm	NIOSH REL
			375 mg/m <sup>3</sup>	
		ST	150 ppm	NIOSH REL
			560 mg/m <sup>3</sup>	
		TWA	200 ppm	OSHA Z-2
		CEIL	300 ppm	OSHA Z-2
		Peak	500 ppm	OSHA Z-2
		TWA	100 ppm	OSHA P0
			375 mg/m <sup>3</sup>	
		STEL	150 ppm	OSHA P0
			560 mg/m <sup>3</sup>	
		PEL	10 ppm	CAL PEL
			37 mg/m <sup>3</sup>	

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		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
		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	1.5 g/g creatinine	ZUS_A CGIHB

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				exposure ceases)		
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 last shift of workweek	0.02 mg/l	ZUS_A 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

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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 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

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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

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<sup>3</sup>

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



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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.

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.

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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  
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



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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  
 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

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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.

**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.

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**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.

**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

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**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.

**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:**

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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  
 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.

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**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/m<sup>3</sup>  
 Teratogenicity: NOAEC F1: 494 mg/m<sup>3</sup>  
 Developmental Toxicity: NOAEC: 247 mg/m<sup>3</sup>

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

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

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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.

**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

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**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.

**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



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**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 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



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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.

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 aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1.37 - 4.4 mg/l  
 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.

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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 aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 45 mg/l  
 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 aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 5 mg/l  
 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

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

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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) aquatic hazard) : 10

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:**

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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

**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

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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

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**



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**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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**MX\_DG**

UN 1993	FLAMMABLE LIQUID, N.O.S. (TOLUENE, ISOPROPANOL)	3		II	LIMITED QUANTITY
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**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER**

UN 1993	FLAMMABLE LIQUID, N.O.S. (TOLUENE, ISOPROPANOL)	3		II	LIMITED QUANTITY
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**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO**

UN 1993	FLAMMABLE LIQUID, N.O.S. (TOLUENE, ISOPROPANOL)	3		II	LIMITED QUANTITY
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**INTERNATIONAL MARITIME DANGEROUS GOODS**

UN 1993	FLAMMABLE LIQUID, N.O.S. (TOLUENE, ISOPROPANOL)	3		II	LIMITED QUANTITY
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**TDG\_INWT\_C**



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UN	1993	FLAMMABLE LIQUID, N.O.S. (TOLUENE, ISOPROPANOL)	3	II	LIMITED QUANTITY
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**TDG\_RAIL\_C**

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
----	------	--	---	----	------------------

**U.S. DOT - INLAND WATERWAYS**

UN	1993	FLAMMABLE LIQUID, N.O.S. (TOLUENE, ISOPROPANOL)	3	II	
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**CFR\_RAIL\_C**

UN	1993	FLAMMABLE LIQUID, N.O.S. (TOLUENE, ISOPROPANOL)	3	II	
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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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\*ORM = ORM-D, CBL = COMBUSTIBLE LIQUID

Marine pollutant	yes
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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



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**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](http://www.P65Warnings.ca.gov).

 **WARNING:** Reproductive Harm - [www.P65Warnings.ca.gov](http://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
- 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.

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**SECTION 16. OTHER INFORMATION**

**Further information**

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<b>NFPA:</b>	<b>HMIS III:</b>
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**SAFETY DATA SHEET**

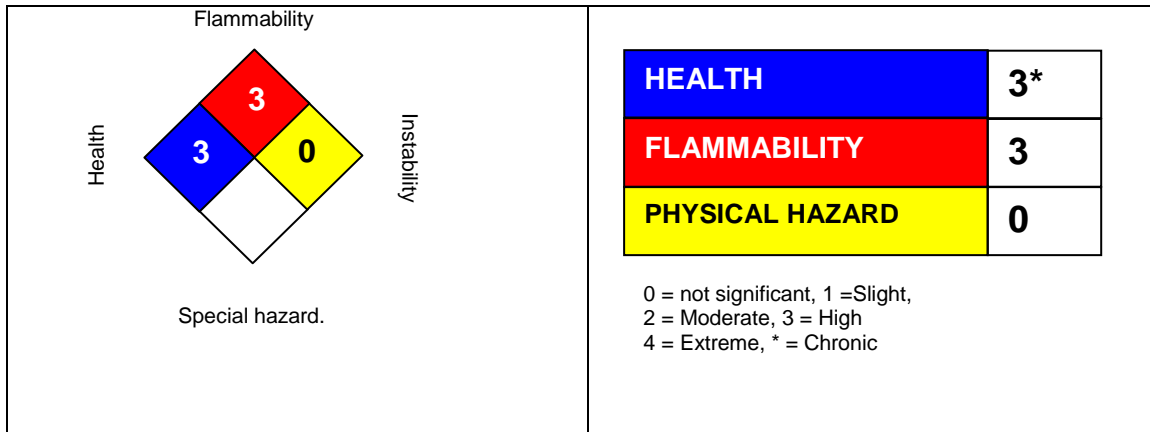
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**NFPA Flammable and Combustible Liquids Classification**

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.
- 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.

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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  
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

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RTK : Right to Know

WHMIS : Workplace Hazardous Materials Information System