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<b>SAFETY DATA SHEET</b>		Revision Date: 05/23/2015
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		SDS Number: R0340955
Valvoline™ EXTRA STRENGTH STARTING FLUID		Version: 1.0
602373		

Valvoline Extra Strength Starting Fluid

29 CFR 1910.1200 (OSHA HazCom 2012)

**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

**Product identifier**

Trade name : Valvoline™ EXTRA STRENGTH STARTING FLUID

**Recommended use of the chemical and restrictions on use**

<b>Details of the supplier of the safety data sheet</b> Ashland P.O. Box 2219 Columbus, OH 43216 United States of America  EHS Customer Requests@ashland.com	<b>Emergency telephone number</b> 1-800-ASHLAND (1-800-274-5263)  <b>Regulatory Information Number</b> 1-800-325-3751  <b>Product Information</b> 614-790-3333
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**SECTION 2. HAZARDS IDENTIFICATION**

**GHS Classification**

- Flammable aerosols : Category 1
- Acute toxicity (Oral) : Category 4
- Carcinogenicity : Category 2
- Reproductive toxicity : Category 2
- Specific target organ systemic toxicity - single exposure : Category 3 (Central nervous system)
- Aspiration hazard : Category 1

**GHS Label element**

Hazard pictograms :



Signal Word : Danger

Hazard Statements : Extremely flammable aerosol.  
Harmful if swallowed.

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May be fatal if swallowed and enters airways.  
 May cause drowsiness or dizziness.  
 Suspected of causing cancer.  
 Suspected of damaging fertility or the unborn child.

**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.  
 Do not spray on an open flame or other ignition source.  
 Pressurized container: Do not pierce or burn, even after use.  
 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.  
 Wash skin thoroughly after handling.  
 Do not eat, drink or smoke when using this product.  
 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 or doctor/ physician.  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.  
 IF exposed or concerned: Get medical advice/ attention.  
 Do NOT induce vomiting.

**Storage:**

Store in a well-ventilated place. Keep container tightly closed.  
 Store locked up.  
 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.

**Disposal:**

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

**Other hazards**

None known.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture  
 Chemical nature : Static Accumulator  
 Chemical nature : Defatter

**Hazardous components**

Chemical Name	CAS-No.	Classification	Concentration (%)
SOLVENT NAPHTHA (PETROLEUM), LIGHT	64742-89-8	Flam. Liq. 2; H225	67.75

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ALIPHATIC		STOT SE 3; H336 Asp. Tox. 1; H304 Aquatic Acute 2; H401 Aquatic Chronic 2; H411	
ETHYL ETHER	60-29-7	Flam. Liq. 1; H224 Acute Tox. 4; H302 STOT SE 3; H336	29.33
n-HEPTANE	142-82-5	Flam. Liq. 2; H225 Skin Irrit. 2; H315 STOT SE 3; H336 Asp. Tox. 1; H304	2.71
CARBON DIOXIDE	124-38-9	Press. Gas Liquefied gas; H280	2.01
ETHANOL	64-17-5	Flam. Liq. 2; H225 Eye Irrit. 2A; H319 STOT SE 3; H336	1.75
ETHYL CHLORIDE	75-00-3	Flam. Gas 1; H220 Carc. 2; H351	0.43
TOLUENE	108-88-3	Flam. Liq. 2; H225 Skin Irrit. 2; H315 Eye Irrit. 2A; H319	0.18

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		Repr. 2; H361	
		STOT SE 3; H336	
		STOT RE 2; H373	
		Asp. Tox. 1; H304	

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#### SECTION 4. FIRST AID MEASURES

- General advice** : Move out of dangerous area.  
Call a POISON CENTRE or doctor/physician if exposed or you feel unwell.  
Show this safety data sheet to the doctor in attendance.  
Do not leave the victim unattended.
- If inhaled** : Move to fresh air.  
If unconscious place in recovery position and seek medical advice.  
Consult a physician after significant exposure.
- In case of skin contact** : Remove contaminated clothing. If irritation develops, get medical attention.  
If on skin, rinse well with water.  
Wash contaminated clothing before re-use.
- In case of eye contact** : Flush eyes with water as a precaution.  
Remove contact lenses.  
Protect unharmed eye.  
If eye irritation persists, consult a specialist.
- If swallowed** : Obtain medical attention.  
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.
- Harmful if swallowed.  
May be fatal if swallowed and enters airways.  
May cause drowsiness or dizziness.  
Suspected of causing cancer.

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Suspected of damaging fertility or the unborn child.  
Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:  
stomach or intestinal upset (nausea, vomiting, diarrhea)  
irritation (nose, throat, airways)  
Cough  
loss of appetite  
confusion  
irregular heartbeat  
respiratory failure

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 : Aldehydes  
carbon dioxide and carbon monoxide  
organic compounds  
Hydrocarbons  
formaldehyde-like
- 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.
- Other information : Comply with all applicable federal, state, and local regulations.  
Suppress (knock down) gases/vapours/mists with a water spray jet.

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## SECTION 7. HANDLING AND STORAGE

- Advice on safe handling : Open drum carefully as content may be under pressure.  
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.  
Container may be opened only under exhaust ventilation hood.
- Conditions for safe storage : BEWARE: Aerosol is pressurized. Keep away from direct sun exposure and temperatures over 50 °C. Do not open by force or throw into fire even after use. Do not spray on flames or red-hot objects.  
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.  
Electrical installations / working materials must comply with

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the technological safety standards.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC	64742-89-8	TWA	500 ppm	OSHA_TRANS
		TWA	300 ppm	ACGIH
		TWA	2,000 mg/m3	OSHA_TRANS
ETHYL ETHER	60-29-7	TWA	1,370 mg/m3	ACGIH
		TWA	400 ppm	ACGIH
		STEL	500 ppm	ACGIH
		PEL	400 ppm 1,200 mg/m3	OSHA_TRANS
		TWA	400 ppm 1,200 mg/m3	TN OEL
n-HEPTANE	142-82-5	STEL	500 ppm 1,500 mg/m3	TN OEL
		REL	85 ppm 350 mg/m3	NIOSH/GUIDE
		Ceil_Time	440 ppm 1,800 mg/m3	NIOSH/GUIDE
		PEL	500 ppm 2,000 mg/m3	OSHA_TRANS
		TWA	400 ppm	ACGIH
CARBON DIOXIDE	124-38-9	STEL	500 ppm	ACGIH
		TWA	5,000 ppm	ACGIH
		STEL	30,000 ppm	ACGIH
		REL	5,000 ppm 9,000 mg/m3	NIOSH/GUIDE
		STEL	30,000 ppm 54,000 mg/m3	NIOSH/GUIDE
ETHANOL	64-17-5	PEL	5,000 ppm 9,000 mg/m3	OSHA_TRANS
		REL	1,000 ppm 1,900 mg/m3	NIOSH/GUIDE
		PEL	1,000 ppm 1,900 mg/m3	OSHA_TRANS
		STEL	1,000 ppm	ACGIH
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT	64742-53-6	TWA	1,000 ppm 1,900 mg/m3	Z1A
		PEL	500 ppm 2,000 mg/m3	OSHA_TRANS

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NAPHTHENIC		REL	5 mg/m3 Mist.	NIOSH/GUID E
		STEL	10 mg/m3 Mist.	NIOSH/GUID E
		PEL	5 mg/m3 Mist.	OSHA_TRA NS
ETHYL CHLORIDE	75-00-3	TWA	100 ppm	ACGIH
		PEL	1,000 ppm 2,600 mg/m3	OSHA_TRA NS
		TWA	1,000 ppm 2,600 mg/m3	Z1A
TOLUENE	108-88-3	TWA	20 ppm	ACGIH
		REL	100 ppm 375 mg/m3	NIOSH/GUID E
		STEL	150 ppm 560 mg/m3	NIOSH/GUID E
		TWA	200 ppm	OSHA/Z2
		Ceiling	300 ppm	OSHA/Z2
		MAX. CONC	500 ppm	OSHA/Z2

**Biological occupational exposure limits**

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
TOLUENE	108-88-3	o-Cresol, with hydrolysis	Creatinine in urine	Sampling time: End of shift.	0.3 mg/g	
Remarks:	Background					
		toluene	Urine	Sampling time: End of shift.	0.03 mg/l	
		toluene	Blood	Sampling time: Prior to last shift of work week.	0.02 mg/l	

**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.  
In the case of dust or aerosol formation use respirator with an approved filter.

A NIOSH-approved air-purifying respirator with an appropriate



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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  
Material : Nitrile rubber
- Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.
- Eye protection : Not required under normal conditions of use. Wear splash-proof safety goggles if material could be misted or splashed into eyes.
- Skin and body protection : Wear as appropriate:  
impervious clothing  
Safety shoes  
Flame-resistant clothing  
Choose body protection according to the amount and concentration of the dangerous substance at the work place.  
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.  
When using do not smoke.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical state : aerosol
- Colour : colourless
- Odour : ether-like
- Odour Threshold : No data available
- pH : No data available
- : No data available
- Boiling point/boiling range : 94.3 °F / 34.6 °C  
(1,013.232 hPa)  
Calculated Phase Transition Liquid/Gas
- Flash point : -49 °F / -45 °C  
Calculated Flash Point
- Evaporation rate : No data available

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Flammability (solid, gas)	: No data available
Upper explosion limit	: 36.5 %(V) Calculated Explosive Limit
Lower explosion limit	: 1.05 %(V) Calculated Explosive Limit
Vapour pressure	: 717.2616 hPa (25 °C) Calculated Vapor Pressure
Relative vapour density	: No data available
Relative density	: No data available
Density	: 0.706 g/cm <sup>3</sup> (15.56 °C)
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

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#### 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. excessive heat
Incompatible materials	: Acids Alkali metals Ammonia Bases halogens

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inorganic materials  
Oxidizing agents  
sodium  
Sulphur compounds

Hazardous decomposition products

Aldehydes  
carbon dioxide and carbon monoxide  
formaldehyde-like  
Hydrocarbons  
organic compounds

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## SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation  
Skin contact  
Eye Contact  
Ingestion

### Acute toxicity

Harmful if swallowed.

### Components:

SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC:

Acute oral toxicity : LD 50 (Rat): > 8,000 mg/kg

Acute inhalation toxicity : LC 50 (Rat): 3400 ppm  
Exposure time: 4 h  
Test atmosphere: vapour

Acute dermal toxicity : LD 50 (Rat): > 4,000 mg/kg

### ETHYL ETHER:

Acute oral toxicity : LD50 (Rat): 1,200 - 1,700 mg/kg

Acute inhalation toxicity : LC 50 (Rat): 32,000 mg/l  
Exposure time: 4 h

### n-HEPTANE:

Acute oral toxicity : LD 50 (Rat): Expected > 5,000 mg/kg  
Remarks: Information given is based on data obtained from similar substances.

Acute inhalation toxicity : LC 50 (Rat, male and female): > 29.29 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour  
Method: OECD Test Guideline 403  
Assessment: No adverse effect has been observed in acute inhalation toxicity tests.

Acute dermal toxicity : LD 50 (Rabbit): Expected > 2,000 mg/kg  
Assessment: Not classified as acutely toxic by dermal absorption under GHS.

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Remarks: Information given is based on data obtained from similar substances.

**ETHANOL:**

Acute oral toxicity : LD 50 (Rat): 7,060 mg/kg

Acute inhalation toxicity : LC 50 (Rat): 117 - 125 mg/l  
Exposure time: 4 h

LC 50 (Mouse): 39 mg/l  
Exposure time: 4 h

Acute dermal toxicity : LD Lo (Rabbit): 20 g/kg

**ETHYL CHLORIDE:**

Acute inhalation toxicity : LC 50 (Rat): > 19000 ppm  
Exposure time: 4 h  
Test atmosphere: vapour  
Method: OECD Test Guideline 403

**TOLUENE:**

Acute oral toxicity : LD 50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC 50 (Rat): 8000 ppm  
Exposure time: 4 h

Acute dermal toxicity : LD 50 (Rabbit): 12,124 mg/kg

**Skin corrosion/irritation**

Not classified based on available information.

**Product:**

Result: Repeated exposure may cause skin dryness or cracking.

**Components:**

SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC:

Result: Mildly irritating to skin

**ETHYL ETHER:**

Result: Irritating to skin

**n-HEPTANE:**

Result: Irritating to skin

**CARBON DIOXIDE:**

Result: Not irritating to skin

**ETHANOL:**

Result: Slightly irritating to skin

**ETHYL CHLORIDE:**

Result: Mildly irritating to skin

**TOLUENE:**

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Result: Irritating to skin

**Serious eye damage/eye irritation**

Not classified based on available information.

**Product:**

Remarks: Vapours may cause irritation to the eyes, respiratory system and the skin.

**Components:**

SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC:

Result: Mildly irritating to eyes

ETHYL ETHER:

Result: Severely irritating to eyes

n-HEPTANE:

Result: Mildly irritating to eyes

CARBON DIOXIDE:

Result: Not irritating to eyes

ETHANOL:

Result: Irritating to eyes

ETHYL CHLORIDE:

Result: Mildly irritating to eyes

TOLUENE:

Result: Irritating to eyes

**Respiratory or skin sensitisation**

Skin sensitisation: Not classified based on available information.

Respiratory sensitisation: Not classified based on available information.

**Components:**

n-HEPTANE:

Test Type: Maximisation Test (GPMT)

Species: Guinea pig

Result: Did not cause sensitisation on laboratory animals.

**Germ cell mutagenicity**

Not classified based on available information.

**Components:**

n-HEPTANE:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro  
 Test species: rat hepatocytes  
 Method: OECD Test Guideline 473  
 Result: negative

: Test Type: Ames test  
 Method: OECD Test Guideline 471  
 Result: negative

**Carcinogenicity**

Suspected of causing cancer.

**Components:**

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**ETHYL CHLORIDE:**

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

**Reproductive toxicity**

Suspected of damaging fertility or the unborn child.

**Components:**

**TOLUENE:**

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

**STOT - single exposure**

May cause drowsiness or dizziness.

**Components:**

**ETHYL ETHER:**

Assessment: May cause drowsiness or dizziness.

**n-HEPTANE:**

Assessment: May cause drowsiness or dizziness.

**ETHANOL:**

Assessment: May cause drowsiness or dizziness.

**TOLUENE:**

Exposure routes: Inhalation

Target Organs: Central nervous system

Assessment: May cause drowsiness or dizziness.

**STOT - repeated exposure**

Not classified based on available information.

**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.

**Aspiration toxicity**

May be fatal if swallowed and enters airways.

**Components:**

**SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC:**

May be fatal if swallowed and enters airways.

**n-HEPTANE:**

May be fatal if swallowed and enters airways.

**TOLUENE:**

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:**

ETHYL CHLORIDE:

Remarks: Liver

Remarks: Central nervous system

**Carcinogenicity:**

**IARC**

Group 1: Carcinogenic to humans

DISTILLATES 64742-53-6  
(PETROLEUM),  
HYDROTREATED LIGHT  
NAPHTHENIC

**OSHA**

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

**NTP**

Known to be human carcinogen

DISTILLATES 64742-53-6  
(PETROLEUM),  
HYDROTREATED LIGHT  
NAPHTHENIC

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**SECTION 12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

n-HEPTANE:

Toxicity to daphnia and other aquatic invertebrates : EC 50 (Water flea (Daphnia magna)): 1.5 mg/l  
Exposure time: 48 h  
Test Type: static test

LC 50 (Mysidopsis bahia (opossum shrimp)): 0.1 mg/l  
Exposure time: 96 h  
Test Type: semi-static test

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOELR (Water flea (Daphnia magna)): 1 mg/l  
Exposure time: 21 d  
Test Type: static test  
Test substance: WAF  
Method: OECD Test Guideline 211  
Remarks: Information given is based on data obtained from similar substances.

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

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

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**ETHANOL:**

Toxicity to fish : LC 50 (Rainbow trout,donaldson trout (Oncorhynchus mykiss)): 12,000 - 16,000 mg/l  
 Exposure time: 96 h  
 Test Type: static test

Toxicity to daphnia and other aquatic invertebrates : EC 50 (Water flea (Daphnia magna)): > 10,000 mg/l  
 Exposure time: 48 h  
 Test Type: static test

**ETHYL CHLORIDE:**

Toxicity to daphnia and other aquatic invertebrates : EC50 (Water flea (Daphnia magna)): 58 mg/l  
 Exposure time: 48 h  
 Test Type: static test  
 Method: Directive 67/548/EEC, Annex V, C.2.

Toxicity to algae : EC50 (Desmodesmus subspicatus (green algae)): 118 mg/l  
 End point: Growth inhibition  
 Exposure time: 72 h  
 Test Type: static test  
 Method: Directive 67/548/EEC, Annex V, C.3.

**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

**Persistence and degradability**

**n-HEPTANE:**

Biodegradability : Result: Readily biodegradable



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**ETHYL CHLORIDE:**

Biodegradability : Inoculum: activated sludge  
 Result: Not readily biodegradable.  
 Biodegradation: 0 %  
 Exposure time: 28 d  
 Method: Directive 67/548/EEC Annex V, C.4.E.

**TOLUENE:**

Biodegradability : Result: Readily biodegradable

**Bioaccumulative potential**

**ETHYL ETHER:**

Partition coefficient: n-octanol/water : log Pow: 0.89

**n-HEPTANE:**

Partition coefficient: n-octanol/water : log Pow: 4.66

**ETHANOL:**

Partition coefficient: n-octanol/water : log Pow: -0.31

**ETHYL CHLORIDE:**

Partition coefficient: n-octanol/water : log Pow: 1.43

**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

**Mobility in soil**

No data available

**Other adverse effects**

No data available

**Product:**

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

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### 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.  
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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#### MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES

UN	1950	ORM-D, CONSUMER COMMODITY	2		
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#### INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

UN	1950	ORM-D, CONSUMER COMMODITY	2.1		
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#### INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

UN	1950	ORM-D, CONSUMER COMMODITY	2.1		
----	------	---------------------------	-----	--	--

#### INTERNATIONAL MARITIME DANGEROUS GOODS

UN	1950	AEROSOLS	2.1		LIMITED QUANTITY
----	------	----------	-----	--	------------------

#### TRANSPORT CANADA - INLAND WATERWAYS

UN	1950	AEROSOLS	2.1		LIMITED QUANTITY
----	------	----------	-----	--	------------------

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**TRANSPORT CANADA - RAIL**

UN	1950	AEROSOLS	2.1	LIMITED QUANTITY
----	------	----------	-----	------------------

**TRANSPORT CANADA - ROAD**

UN	1950	AEROSOLS	2.1	MARINE POLLUTANT:(ALIPHATIC PETROLEUM NAPHTHA)LIMITED QUANTITY
----	------	----------	-----	--

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

	Aerosols, flammable (engine starting fluid)	ORM
--	---	-----

**U.S. DOT - RAIL**

	Aerosols, flammable (engine starting fluid)	ORM
--	---	-----

**U.S. DOT - ROAD**

	AEROSOLS	ORM
--	----------	-----

\*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)
ETHYL ETHER	60-29-7	100	340.921101

**SARA 311/312 Hazards** : Fire Hazard

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Chronic Health Hazard  
Acute Health Hazard

**SARA 313 Component(s)** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**Pennsylvania Right To Know**

SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC	64742-89-8	50.00 - 70.00 %
ETHYL ETHER	60-29-7	20.00 - 30.00 %
n-HEPTANE	142-82-5	1.00 - 5.00 %
CARBON DIOXIDE	124-38-9	1.00 - 5.00 %
ETHANOL	64-17-5	1.00 - 5.00 %

**New Jersey Right To Know**

SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC	64742-89-8	50.00 - 70.00 %
ETHYL ETHER	60-29-7	20.00 - 30.00 %
n-HEPTANE	142-82-5	1.00 - 5.00 %
CARBON DIOXIDE	124-38-9	1.00 - 5.00 %
ETHANOL	64-17-5	1.00 - 5.00 %
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC	64742-53-6	0.10 - 1.00 %
TOLUENE	108-88-3	0.10 - 1.00 %

**California Prop 65**

Proposition 65 warnings are not required for this product based on the results of a risk assessment.

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

TSCA	: On TSCA Inventory
DSL	: All components of this product are on the Canadian DSL.
AUSTR	: On the inventory, or in compliance with the inventory
NZIOC	: On the inventory, or in compliance with the inventory
ENCS	: Not in compliance with the inventory
KECL	: On the inventory, or in compliance with the inventory
PICCS	: On the inventory, or in compliance with the inventory

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IECSC : On the inventory, or in compliance with the inventory

**Inventories**

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

**SECTION 16. OTHER INFORMATION**

**Further information**

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

**NFPA Flammable and Combustible Liquids Classification**

Not applicable

**Full text of H-Statements referred to under sections 2 and 3.**

- H220 Extremely flammable gas.
- H224 Extremely flammable liquid and vapor.
- H225 Highly flammable liquid and vapor.
- H280 Contains gas under pressure; may explode if heated.
- H302 Harmful if swallowed.
- H304 May be fatal if swallowed and enters airways.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H336 May cause drowsiness or dizziness.
- H351 Suspected of causing cancer.
- H361 Suspected of damaging fertility or the unborn child.
- H373 May cause damage to organs through prolonged or repeated exposure if inhaled.
- H401 Toxic to aquatic life.
- H411 Toxic to aquatic life with long lasting effects.

Sources of key data used to compile the Safety Data Sheet

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Ashland 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 Ashland's Environmental Health and Safety Department (1-800-325-3751).

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