

SECTION 1: Identification

1.1. Identification

Product form : Mixture
 Product name : Gard 25% Starting Fluid 11 Oz.
 Product code : 575306

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Starting Fluid

1.3. Supplier

Martin Lubricants
 484 East 6th St.
 Smackover, AR 71762

1.4. Emergency telephone number

Emergency number : CHEMTREC (800) 424-9300

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Flammable gases, Category 1	H220	Extremely flammable gas.
Gases under pressure : Liquefied gas	H280	Contains gas under pressure; may explode if heated.
Skin corrosion/irritation, Category 2	H315	Causes skin irritation.
Germ cell mutagenicity, Category 1B	H340	May cause genetic defects.
Carcinogenicity, Category 1A	H350	May cause cancer.
Reproductive toxicity, Category 2	H361	Suspected of damaging fertility or the unborn child.
Specific target organ toxicity – Single exposure, Category 3, Narcosis	H336	May cause drowsiness or dizziness.
Specific target organ toxicity – Repeated exposure, Category 2	H373	May cause damage to organs through prolonged or repeated exposure.

Full text of H-statements: see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labelling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

H220 - Extremely flammable gas.
 H280 - Contains gas under pressure; may explode if heated.
 H315 - Causes skin irritation.
 H336 - May cause drowsiness or dizziness.
 H340 - May cause genetic defects.
 H350 - May cause cancer.
 H361 - Suspected of damaging fertility or the unborn child.
 H373 - May cause damage to organs through prolonged or repeated exposure.

Precautionary statements (GHS US) :

P201 - Obtain special instructions before use.
 P202 - Do not handle until all safety precautions have been read and understood.

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P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P260 - Do not breathe dust/fume/gas/mist/vapours/spray.

P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.

P264 - Wash hands, forearms and face thoroughly after handling.

P271 - Use only outdoors or in a well-ventilated area.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

P302+P352 - If on skin: Wash with plenty of water.

P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.

P308+P313 - If exposed or concerned: Get medical advice/attention.

P312 - Call a poison center or doctor if you feel unwell.

P314 - Get medical advice/attention if you feel unwell.

P321 - Specific treatment (see supplemental first aid instruction on this label).

P332+P313 - If skin irritation occurs: Get medical advice/attention.

P362+P364 - Take off contaminated clothing and wash it before reuse.

P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

P381 - Eliminate all ignition sources if safe to do so.

P403 - Store in a well-ventilated place.

P403+P233 - Store in a well-ventilated place. Keep container tightly closed.

P405 - Store locked up.

P410+P403 - Protect from sunlight. Store in a well-ventilated place.

P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
Heptane, branched, cyclic and linear	CAS-No.: 426260-76-6	40 – 50
Petroleum gases, liquefied, sweetened	CAS-No.: 68476-86-8	10 – 30
Diethyl ether	CAS-No.: 60-29-7	20 – 25
Heptane	CAS-No.: 142-82-5	10 – 25
Toluene	CAS-No.: 108-88-3	0.1 – 2
Ethanol	CAS-No.: 64-17-5	≤ 1.35
Hydrotreated Heavy Naphthenic Base Oil	CAS-No.: 64742-52-5	≤ 1
Chloroethane, liquefied, under pressure	CAS-No.: 75-00-3	≤ 0.5

Full text of hazard classes and H-statements : see section 16

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SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general	: IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects	: May cause drowsiness or dizziness.
Symptoms/effects after skin contact	: Irritation.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam.
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5.2. Specific hazards arising from the chemical

Fire hazard	: Extremely flammable gas.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	: Eliminate all ignition sources if safe to do so. Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures	: No open flames, no sparks, and no smoking. Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe dust/fume/gas/mist/vapours/spray.
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6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
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6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	: Notify authorities if product enters sewers or public waters.
Other information	: Dispose of materials or solid residues at an authorized site.

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6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Eliminate all ignition sources if safe to do so. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers. Provide local exhaust or general room ventilation. Wear personal protective equipment. Floors, walls and other surfaces in the hazard area must be cleaned regularly. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.
Hygiene measures	: Separate working clothes from town clothes. Launder separately. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Protect from sunlight. Store in a well-ventilated place. Store locked up. Keep container tightly closed. Keep cool.
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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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No additional information available

Heptane, branched, cyclic and linear (426260-76-6)

No additional information available

Diethyl ether (60-29-7)

USA - ACGIH - Occupational Exposure Limits

Local name	Ethyl ether
ACGIH OEL TWA [ppm]	400 ppm
ACGIH OEL STEL [ppm]	500 ppm
Remark (ACGIH)	TLV® Basis: CNS impair; URT irr
Regulatory reference	ACGIH 2022

USA - OSHA - Occupational Exposure Limits

Local name	Ethyl ether
OSHA PEL TWA [1]	1200 mg/m ³
OSHA PEL TWA [2]	400 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

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Petroleum gases, liquefied, sweetened (68476-86-8)	
No additional information available	
Heptane (142-82-5)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Heptane, isomers (n-Heptane)
ACGIH OEL TWA [ppm]	400 ppm
ACGIH OEL STEL [ppm]	500 ppm
Remark (ACGIH)	TLV® Basis: CNS impair; URT irr
Regulatory reference	ACGIH 2022
USA - OSHA - Occupational Exposure Limits	
Local name	Heptane (n-Heptane)
OSHA PEL TWA [1]	2000 mg/m ³
OSHA PEL TWA [2]	500 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
Toluene (108-88-3)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Toluene
ACGIH OEL TWA [ppm]	20 ppm
Remark (ACGIH)	TLV® Basis: CNS, visual & hearing impair; female repro system eff; pregnancy loss. Notations: OTO; A4 (Not classifiable as a Human Carcinogen); BEI
Regulatory reference	ACGIH 2022
USA - ACGIH - Biological Exposure Indices	
Local name	TOLUENE
BEI	0.3 mg/g creatinine Parameter: o-Cresol (with hydrolysis) - Medium: urine - Sampling time: End of shift - Notations: B 0.03 mg/l Parameter: Toluene - Medium: urine - Sampling time: End of shift 0.02 mg/l Parameter: Toluene - Medium: blood - Sampling time: Prior to last shift of workweek
Regulatory reference	ACGIH 2022
USA - OSHA - Occupational Exposure Limits	
Local name	Toluene
OSHA PEL TWA [2]	200 ppm
OSHA PEL C [ppm]	300 ppm
Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift	500 ppm 10 mins.
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-2
Ethanol (64-17-5)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Ethanol
ACGIH OEL STEL [ppm]	1000 ppm

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Ethanol (64-17-5)	
Remark (ACGIH)	TLV® Basis: URT irr. Notations: A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans)
Regulatory reference	ACGIH 2022
USA - OSHA - Occupational Exposure Limits	
Local name	Ethyl alcohol (Ethanol)
OSHA PEL TWA [1]	1900 mg/m ³
OSHA PEL TWA [2]	1000 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
Hydrotreated Heavy Naphthenic Base Oil (64742-52-5)	
No additional information available	
Chloroethane, liquefied, under pressure (75-00-3)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Ethyl chloride
ACGIH OEL TWA [ppm]	100 ppm
Remark (ACGIH)	TLV® Basis: Liver dam. Notations: Skin; A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans)
Regulatory reference	ACGIH 2022
USA - OSHA - Occupational Exposure Limits	
Local name	Ethyl chloride
OSHA PEL TWA [1]	2600 mg/m ³
OSHA PEL TWA [2]	1000 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
8.2. Appropriate engineering controls	
Appropriate engineering controls	: Ensure good ventilation of the work station.
Environmental exposure controls	: Avoid release to the environment.
8.3. Individual protection measures/Personal protective equipment	
Hand protection:	
Protective gloves	
Eye protection:	
Safety glasses	
Skin and body protection:	
Wear suitable protective clothing	
Respiratory protection:	
[In case of inadequate ventilation] wear respiratory protection.	

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Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Gas
Appearance	: Colorless to pale yellow liquid.
Colour	: colourless to yellow
Odour	: Sweet
Odour threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: -42 °C
Flash point	: -23 °C
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: Extremely flammable gas.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: > 1.5
Relative density	: No data available
Solubility	: Material nearly insoluble in water.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: 180 °C
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive limits	: No data available
Explosive properties	: Heating may cause a fire or explosion.
Oxidising properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Extremely flammable gas.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

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10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Diethyl ether (60-29-7)

LD50 oral rat	1600 mg/kg bodyweight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 7 day(s))
LD50 dermal rabbit	> 20000 mg/kg (Equivalent or similar to OECD 402, 24 h, Rabbit, Male, Experimental value, Dermal, 14 day(s))
LC50 Inhalation - Rat	97 mg/l (4 h, Rat, Male / female, Experimental value, Inhalation (vapours), 14 day(s))
LC50 Inhalation - Rat [ppm]	32000 ppm (4 h, Rat, Male / female, Experimental value, Inhalation (vapours), 14 day(s))
ATE US (oral)	1600 mg/kg bodyweight
ATE US (gases)	32000 ppmv/4h
ATE US (vapours)	97 mg/l/4h
ATE US (dust,mist)	97 mg/l/4h

Petroleum gases, liquefied, sweetened (68476-86-8)

LC50 Inhalation - Rat (Dust/Mist)	658 mg/l Source: IUCLID
ATE US (dust,mist)	658 mg/l/4h

Heptane (142-82-5)

LD50 oral rat	> 5000 mg/kg bodyweight (Equivalent or similar to OECD 401, Rat, Male / female, Read-across, Oral, 14 day(s))
LD50 dermal rabbit	> 2000 mg/kg bodyweight (Equivalent or similar to OECD 402, 24 h, Rabbit, Male / female, Read-across, Dermal, 14 day(s))
LC50 Inhalation - Rat	> 29.29 mg/l air (Equivalent or similar to OECD 403, 4 h, Rat, Male / female, Experimental value, Inhalation (vapours))

Toluene (108-88-3)

LD50 oral rat	5580 mg/kg bodyweight
LD50 dermal rabbit	> 5000 mg/kg bodyweight
LC50 Inhalation - Rat	28.1 mg/l air
LC50 Inhalation - Rat (Vapours)	> 20 mg/l Source: ECHA
ATE US (oral)	5580 mg/kg bodyweight

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Ethanol (64-17-5)	
LD50 oral rat	10470 mg/kg bodyweight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	> 15800 mg/kg bodyweight (Rabbit, Experimental value, Dermal)
LC50 Inhalation - Rat	124.7 mg/l air (Equivalent or similar to OECD 403, 4 h, Rat, Male / female, Experimental value, Inhalation (vapours), 14 day(s))
ATE US (oral)	10470 mg/kg bodyweight

Hydrotreated Heavy Naphthenic Base Oil (64742-52-5)	
LD50 oral rat	> 5000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), Guideline: OECD Guideline 420 (Acute Oral Toxicity - Fixed Dose Method)
LD50 dermal rabbit	2000 mg/kg Source: IUCLID
LC50 Inhalation - Rat (Dust/Mist)	5.53 mg/l Source: ECHA
ATE US (dermal)	2000 mg/kg bodyweight
ATE US (dust,mist)	5.53 mg/l/4h

Chloroethane, liquefied, under pressure (75-00-3)	
LC50 Inhalation - Rat [ppm]	> 19000 ppm (Equivalent or similar to OECD 403, 4 h, Rat, Male / female, Experimental value, Inhalation (gases), 14 day(s))
ATE US (gases)	4500 ppmv/4h

Skin corrosion/irritation : Causes skin irritation.

Diethyl ether (60-29-7)	
pH	No data available in the literature

Heptane (142-82-5)	
pH	No data available in the literature

Ethanol (64-17-5)	
pH	7 (789 g/l, 20 °C)

Chloroethane, liquefied, under pressure (75-00-3)	
pH	No data available in the literature

Serious eye damage/irritation : Not classified

Diethyl ether (60-29-7)	
pH	No data available in the literature

Heptane (142-82-5)	
pH	No data available in the literature

Ethanol (64-17-5)	
pH	7 (789 g/l, 20 °C)

Chloroethane, liquefied, under pressure (75-00-3)	
pH	No data available in the literature

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : May cause genetic defects.

Carcinogenicity : May cause cancer.

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Toluene (108-88-3)	
IARC group	3 - Not classifiable
Ethanol (64-17-5)	
IARC group	1 - Carcinogenic to humans
Chloroethane, liquefied, under pressure (75-00-3)	
IARC group	3 - Not classifiable
Reproductive toxicity	: Suspected of damaging fertility or the unborn child.
STOT-single exposure	: May cause drowsiness or dizziness.
Heptane, branched, cyclic and linear (426260-76-6)	
STOT-single exposure	May cause drowsiness or dizziness.
Diethyl ether (60-29-7)	
STOT-single exposure	May cause drowsiness or dizziness.
Heptane (142-82-5)	
STOT-single exposure	May cause drowsiness or dizziness.
Toluene (108-88-3)	
STOT-single exposure	May cause drowsiness or dizziness.
STOT-repeated exposure	: May cause damage to organs through prolonged or repeated exposure.
Diethyl ether (60-29-7)	
LOAEL (oral, rat, 90 days)	2000 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: other:
NOAEL (oral, rat, 90 days)	500 mg/kg bodyweight Animal: rat, Guideline: other:
Petroleum gases, liquefied, sweetened (68476-86-8)	
LOAEC (inhalation, rat, gas, 90 days)	12000 ppm Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test), Guideline: other:
Heptane (142-82-5)	
LOAEC (inhalation, rat, vapour, 90 days)	16.6 mg/l air Animal: rat, Animal sex: male
NOAEC (inhalation, rat, vapour, 90 days)	3.3 mg/l air Animal: rat, Animal sex: male
Toluene (108-88-3)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Ethanol (64-17-5)	
LOAEL (oral, rat, 90 days)	3200 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEL (oral, rat, 90 days)	1730 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents), Remarks on results: other:
Hydrotreated Heavy Naphthenic Base Oil (64742-52-5)	
LOAEL (oral, rat, 90 days)	125 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
NOAEL (dermal, rat/rabbit, 90 days)	≈ 1000 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-Day Study)
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available

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Diethyl ether (60-29-7)	
Viscosity, kinematic	No data available in the literature
Petroleum gases, liquefied, sweetened (68476-86-8)	
Hydrocarbon	Yes
Heptane (142-82-5)	
Viscosity, kinematic	0.641 mm ² /s (20 °C, EN ISO 3104: Capillary viscometer)
Hydrocarbon	Yes
Toluene (108-88-3)	
Hydrocarbon	Yes
Ethanol (64-17-5)	
Viscosity, kinematic	1.6 mm ² /s (20 °C)
Hydrotreated Heavy Naphthenic Base Oil (64742-52-5)	
Viscosity, kinematic	1.99 – 847 mm ² /s Temp.: '40°C' Parameter: 'mm ² /s' 'mm ² /s'
Chloroethane, liquefied, under pressure (75-00-3)	
Viscosity, kinematic	Not applicable (gas)

Symptoms/effects : May cause drowsiness or dizziness.
Symptoms/effects after skin contact : Irritation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Diethyl ether (60-29-7)	
LC50 - Fish [1]	2560 mg/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value, Lethal)
EC50 - Crustacea [1]	1380 mg/l (NEN 6501: Water - Determination of toxicity with Daphnia magna, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
EC50 72h - Algae [1]	> 100 mg/l Source: ECHA
ErC50 algae	> 100 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, Nominal concentration)
LOEC (chronic)	> 100 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	100 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
Heptane (142-82-5)	
LC50 - Fish [1]	5.738 mg/l Source: QSAR
EC50 - Crustacea [1]	1.5 mg/l
EC50 72h - Algae [1]	4.338 mg/l (Pseudokirchneriella subcapitata, Fresh water, QSAR, Biomass)
LOEC (chronic)	0.32 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	0.17 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

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Toluene (108-88-3)	
LC50 - Fish [1]	5.5 mg/l
EC50 - Crustacea [1]	3.78 mg/l Source: ECHA
Ethanol (64-17-5)	
LC50 - Fish [1]	15300 mg/l (US EPA, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value, Lethal)
EC50 - Crustacea [1]	> 10000 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	275 mg/l (Equivalent or similar to OECD 201, Chlorella vulgaris, Static system, Fresh water, Experimental value, Growth rate)
EC50 96h - Algae [1]	≈ 22000 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
ErC50 algae	275 mg/l Source: ECHA
Hydrotreated Heavy Naphthenic Base Oil (64742-52-5)	
LC50 - Fish [1]	> 5000 mg/l Source: IUCLID
EC50 - Crustacea [1]	> 1000 mg/l Source: IUCLID
EC50 96h - Algae [1]	> 1000 mg/l Source: IUCLID
Chloroethane, liquefied, under pressure (75-00-3)	
LC50 - Fish [1]	322.74 mg/l (96 h, Pimephales promelas, Fresh water, QSAR, Lethal)
EC50 - Crustacea [1]	58 mg/l (EU Method C.2, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
EC50 72h - Algae [1]	118 mg/l Source: ECHA
ErC50 algae	118 mg/l (EU Method C.3, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, Growth rate)
12.2. Persistence and degradability	
Diethyl ether (60-29-7)	
Persistence and degradability	Not readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.03 g O ₂ /g substance
Chemical oxygen demand (COD)	0.026 g O ₂ /g substance (KMnO ₄)
ThOD	2.6 g O ₂ /g substance
Heptane (142-82-5)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	1.92 g O ₂ /g substance
Chemical oxygen demand (COD)	0.06 g O ₂ /g substance
ThOD	3.52 g O ₂ /g substance
Toluene (108-88-3)	
Persistence and degradability	Readily biodegradable in water.
Biochemical oxygen demand (BOD)	2.15 g O ₂ /g substance
Chemical oxygen demand (COD)	2.52 g O ₂ /g substance

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Toluene (108-88-3)	
ThOD	3.13 g O ₂ /g substance
BOD (% of ThOD)	0.69
Ethanol (64-17-5)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.8 – 0.967 g O ₂ /g substance
Chemical oxygen demand (COD)	1.7 g O ₂ /g substance
ThOD	2.1 g O ₂ /g substance
BOD (% of ThOD)	0.43
Chloroethane, liquefied, under pressure (75-00-3)	
Persistence and degradability	Not readily biodegradable in water.
12.3. Bioaccumulative potential	
Diethyl ether (60-29-7)	
BCF - Fish [1]	2 l/kg (QSAR, Fresh weight)
Partition coefficient n-octanol/water (Log Pow)	0.82 – 0.89 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
Petroleum gases, liquefied, sweetened (68476-86-8)	
Partition coefficient n-octanol/water (Log Pow)	≤ 2.8 Source: IUCLID
Heptane (142-82-5)	
BCF - Other aquatic organisms [1]	552 (BCFBAF v3.00, Calculated value)
Partition coefficient n-octanol/water (Log Pow)	4.5 (Literature)
Bioaccumulative potential	Potential for bioaccumulation (500 ≤ BCF ≤ 5000).
Toluene (108-88-3)	
BCF - Fish [1]	90
Partition coefficient n-octanol/water (Log Pow)	2.73
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
Ethanol (64-17-5)	
BCF - Fish [1]	1 (Other, 72 h, Cyprinus carpio, Static system, Fresh water, Read-across)
Partition coefficient n-octanol/water (Log Pow)	-0.31 (Experimental value)
Bioaccumulative potential	Not bioaccumulative.
Hydrotreated Heavy Naphthenic Base Oil (64742-52-5)	
Partition coefficient n-octanol/water (Log Pow)	3.9 – 6 Source: IUCLID
Chloroethane, liquefied, under pressure (75-00-3)	
Partition coefficient n-octanol/water (Log Pow)	1.43 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

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12.4. Mobility in soil

Diethyl ether (60-29-7)

Surface tension	17 mN/m (20 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.99 – 1.42 (log Koc, SRC PCKOCWIN v2.0, QSAR)
Ecology - soil	Highly mobile in soil.

Heptane (142-82-5)

Surface tension	19.66 mN/m (25 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2.38 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Low potential for adsorption in soil.

Toluene (108-88-3)

Surface tension	27.73 mN/m
Ecology - soil	Low potential for adsorption in soil.

Ethanol (64-17-5)

Surface tension	22.31 mN/m (20 °C, 100 %)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.2 (log Koc, Experimental value)
Ecology - soil	Highly mobile in soil.

Chloroethane, liquefied, under pressure (75-00-3)

Surface tension	21.18 mN/m (5 °C)
Ecology - soil	Not applicable (gas).

12.5. Other adverse effects

Effect on global warming : No known effects from this product.

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

DOT	TDG	IMDG	IATA
14.1. UN number			
Not regulated for transport			
14.2. Proper Shipping Name			
Not applicable	Not applicable	Not applicable	Not applicable

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DOT	TDG	IMDG	IATA
Transport document description			
Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)			
Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group			
Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards			
Not applicable	Not applicable	Not applicable	Not applicable
No supplementary information available			

14.6. Special precautions for user

DOT

No data available

TDG

No data available

IMDG

No data available

IATA

No data available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
Heptane, branched, cyclic and linear	426260-76-6	Present	Active	
Diethyl ether	60-29-7	Present	Active	
Petroleum gases, liquefied, sweetened	68476-86-8	Present	Active	
Heptane	142-82-5	Present	Active	
Toluene	108-88-3	Present	Active	
Ethanol	64-17-5	Present	Active	
Hydrotreated Heavy Naphthenic Base Oil	64742-52-5	Present	Active	
Chloroethane, liquefied, under pressure	75-00-3	Present	Active	

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

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Toluene	CAS-No. 108-88-3	0.465 – 1.985%
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Diethyl ether (60-29-7)

CERCLA RQ	100 lb
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Toluene (108-88-3)

Listed on EPA Hazardous Air Pollutant (HAPS)

CERCLA RQ	1000 lb
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Chloroethane, liquefied, under pressure (75-00-3)

Listed on EPA Hazardous Air Pollutant (HAPS)

CERCLA RQ	100 lb
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15.2. International regulations

CANADA

Heptane, branched, cyclic and linear (426260-76-6)

Listed on the Canadian DSL (Domestic Substances List)

Diethyl ether (60-29-7)

Listed on the Canadian DSL (Domestic Substances List)

Petroleum gases, liquefied, sweetened (68476-86-8)

Listed on the Canadian DSL (Domestic Substances List)

Heptane (142-82-5)

Listed on the Canadian DSL (Domestic Substances List)

Toluene (108-88-3)

Listed on the Canadian DSL (Domestic Substances List)

Ethanol (64-17-5)

Listed on the Canadian DSL (Domestic Substances List)

Hydrotreated Heavy Naphthenic Base Oil (64742-52-5)

Listed on the Canadian DSL (Domestic Substances List)

Chloroethane, liquefied, under pressure (75-00-3)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

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National regulations

Diethyl ether (60-29-7)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Petroleum gases, liquefied, sweetened (68476-86-8)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Heptane (142-82-5)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Toluene (108-88-3)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Ethanol (64-17-5)

Listed on IARC (International Agency for Research on Cancer)
Listed on INSQ (Mexican National Inventory of Chemical Substances)

Hydrotreated Heavy Naphthenic Base Oil (64742-52-5)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Chloroethane, liquefied, under pressure (75-00-3)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. US State regulations



WARNING:

This product can expose you to Methyl isobutyl ketone, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Component	State or local regulations
Diethyl ether(60-29-7)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - New York City - Right to Know Hazardous Substances List; U.S. - Pennsylvania - RTK (Right to Know) List
Heptane(142-82-5)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - New York City - Right to Know Hazardous Substances List; U.S. - Pennsylvania - RTK (Right to Know) List
Toluene(108-88-3)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - New York City - Right to Know Hazardous Substances List; U.S. - Pennsylvania - RTK (Right to Know) List
Ethanol(64-17-5)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - New York City - Right to Know Hazardous Substances List; U.S. - Pennsylvania - RTK (Right to Know) List
Chloroethane, liquefied, under pressure(75-00-3)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - New York City - Right to Know Hazardous Substances List; U.S. - Pennsylvania - RTK (Right to Know) List

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SECTION 16: Other information

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Revision date : 01/31/2023

Full text of H-statements	
H220	Extremely flammable gas.
H280	Contains gas under pressure; may explode if heated.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H340	May cause genetic defects.
H350	May cause cancer.
H361	Suspected of damaging fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.

Safety Data Sheet (SDS), USA

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