

Issue Date: 20-Apr-2012

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Version 1

1. IDENTIFICATION

Product Identifier

Product Name Autoguard Starting Fluid 10.7 OZ

Other means of identification

This diesel fuel additive complies with federal low sulfur content requirements for use in diesel motor vehicles and non-road engines.

SDS # AG-030

Recommended use of the chemical and restrictions on use

Recommended Use Starting Fluid

Details of the supplier of the safety data sheet

Warren Oil Company, LLC
2340 U.S. Highway 301 North
Dunn, NC 28334

Emergency Telephone Number

Company Phone Number 1-800-428-9284
Emergency Telephone (24 hr) CHEMTREC 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification (GHS-US)

Flam. Aerosol 1	H222
Compressed gas	H280
Skin Irrit. 2	H315
Carc. 2	H351
Repr. 2	H361
STOT SE 3	H336
STOT SE 2	H373

Full text of H statements : see Section 16

GHS-US Labeling

Hazard pictograms (GHS-US)



Signal word (GHS-US):

Hazard statements (GHS-US):

Danger

H222 – Extremely flammable aerosol
H280 – Contains gas under pressure; may explode if heated
H315 – Causes skin irritation
H336 – May cause drowsiness or dizziness
H351 – Suspected of causing cancer

Precautionary statements (GHS-US):

H361 – Suspected of damaging fertility or the unborn child
 H373 – May cause damage to organs through prolonged or repeated exposure

P201 – Obtain special instructions before use
 P202 – Do not handle until all safety precautions have been read and understood
 P210 – Keep away from heat, hot surfaces, open flames, sparks. No smoking
 P211 – Do not spray on an open flame or other ignition source
 P251 – Pressurized container: Do not pierce or burn, even after use
 P260 – Do not breathe dust/fume/gas/mist/vapor/spray
 P261 – Avoid breathing dust/fume/gas/mist/vapor/spray
 P264 – Wash affected area thoroughly after handling
 P271 – Use only outdoors or in a well-ventilated area
 P280 – Wear personal protective equipment as required
 P302+P352 – IF ON SKIN: Wash with plenty of soap and 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 CENTER, doctor, if you feel unwell
 P314 – Get medical advice and attention if you feel unwell
 P321 – Specific treatment: See Section 4.1 on SDS
 P332+P313 – If skin irritation occurs: Get medical advice/attention
 P362+P364 – Take off contaminated clothing and wash before reuse
 P370+P378 – In case of fire: Use ... for extinction
 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
 P410+P412 – Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F
 P501 – Dispose of contents/container to appropriate waste disposal facility, in accordance with local, regional, national, international regulations

Other hazards:

Other hazards not contributing to the classification:

Contains gas under pressure; may explode if heated. None under normal conditions.

Unknown acute toxicity (GHS-US)

No data available..

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable

Mixture

Name	Product Identifier	%	Classification (GHS-US)
Heptane, Branched Cyclic	(CAS No.) 426260-76-6	44.64 – 46.51	Flam. Liq. 1, H224 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 3, H412
Diethyl Ether	(CAS No.) 60-29-7	22.5 – 25	Flam. Liq.1, H224 Acute Tox. 4 (Oral), H302 Carc. 2, H351 Repr. 2, H361 STOT SE 3, H336

Name	Product Identifier	%	Classification (GHS-US)
Petroleum Gases, Liquefied, Sweetened	(CAS No.) 68476-86-8	10 – 30	Flam. Gas 1, H220 Compressed gas, H280
n-Heptane	(CAS No.) 142-82-5	11.625 – 20.925	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 2, H400 Aquatic Chronic 1, H410
Carbon Dioxide, Liquefied, Under Pressure	(CAS No.) 124-38-9-8	5 – 10	Compressed gas, H280
Toluene	(CAS No.) 108-88-3	0.465 – 1.985	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304
Ethanol	(CAS No.) 64-17-5	<= 1.35	Flam. Liq. 2, H225
Distillates (Petroleum), Hydrotreated Heavy Naphthenic	(CAS No.) 64742-52-5	< 1	Asp. Tox. 1, H304
Chloroethane	(CAS No.) 75-00-3	<= 0.5	Flam. Gas 1, H220 Carc. 2, H351 Aquatic Chronic 3, H412
Methanol	(CAS No.) 67-56-1	<= 0.075	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation: dust, mist), H331 STOT SE 1, H370
2-Propanol	(CAS No.) 67-63-0	<= 0.075	Flam. Liq. 2, H225 Eye Irrit. 2A, H319 STOT SE 3, H336
2,6-Di-tert-butyl-p-cresol	(CAS No.) 128-37-0	0 – 0.025	Acute Tox. 4 (Oral), H302
Methyl Isobutyl Ketone	(CAS No.) 108-10-1	<= 0.015	Flam. Liq. 2, H225 Acute Tox. 3 (Inhalation: gas), H331 Eye Irrit. 2A, H319 STOT SE 3, H335

The exact percentage is a trade secret.

4. FIRST-AID MEASURES

Description of first aid measures

First-aid measures general:

Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention. Suspected of causing cancer.

First-aid measures after inhalation:

Cough. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

First-aid measures after skin contact:

Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention. Specific treatment: See Section 4.1 on SDS.

First-aid measures after eye contact:

Direct contact with the eyes is likely to be irritating. Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness present.

First-aid measures after ingestion:

Rinse mouth. DO NOT induce vomiting. Obtain emergency medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms/injuries:

Suspected of damaging fertility or the unborn child. Cause damage to organs.

Symptoms/injuries after inhalation: Shortness of breath. May cause drowsiness or dizziness.

Symptoms/injuries after skin contact: Causes skin irritation.

Indication of any immediate medical attention and special treatment needed

No additional information available.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable Extinguishing Media: Do not use a heavy water stream.

Special hazards arising from the substance or mixture

Fire Hazard: Extremely flammable aerosol.

Explosion hazard: Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

Advice for firefighters

Firefighting instructions: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment. DO NOT fight fire when fire reaches explosives. Evacuate area.

Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Other information: Aerosol Level 3.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

General measures: No open flames. No smoking. Isolate from fire, if possible, without unnecessary risk. Remove ignition sources. Use special care to avoid static electric charges.

For non-emergency personnel

Protective equipment: Gloves, Safety glasses.

Emergency procedures: Evacuate unnecessary personnel.

For emergency responders

Protective equipment: Equip cleanup crew with proper protection. Avoid breathing dust, fume, gas, mist, vapor spray.

Emergency procedures: Ventilate area.

Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

Methods and material for containment and cleaning up

For containment: Dam up the liquid spill. Contain released substance, pump into suitable containers. Plug the leak, cut off the supply.

Methods for cleaning up: Store away from other materials.

Reference to other sections

See Section 8. Exposure controls and personal protection.

7. HANDLING AND STORAGE

Precautions for safe handling

Additional hazards when processed: Hazardous waste due to potential risk of explosion. Pressurized container: Do not pierce or burn, even after use.

Precautions for safe handling: Wash hands or other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Do not spray on an open flame or other ignition source. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing dust, fume, gas, mist, vapor spray. Use only outdoors or in a well-ventilated area.

Hygiene measures: Wash affected areas thoroughly after handling. Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse. Always wash hands after handling the product. Remove contaminated clothes. Separate working clothes from town clothes. Launder separately. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and when leaving work.

Conditions for safe storage, including any incompatibilities

Technical measures: Proper grounding procedures to avoid static electricity should be followed. Provide local exhaust or general room ventilation. Comply with applicable regulations.

Storage conditions: Keep only in the original container in a cool, well ventilated place away from: Do not expose to temperatures exceeding 50 °C/ 122°F. Keep in fireproof place. Keep container tightly closed.

Incompatible products: Strong bases. Strong acids.

Incompatible materials: Sources of ignition. Direct sunlight. Heat sources.

Heat-ignition: KEEP SUBSTANCE AWAY FROM: ignition sources, heat sources.

Storage area: Store in a well-ventilated place.

Specific end use(s)

Follow Label Directions.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Diethyl ether (60-29-7)		
USA ACGIH	ACGIH TWA (mg/m ³)	1200
USA ACGIH	ACGIH TWA (ppm)	400 ppm (Ethyl ether; USA; Time-weighted average exposure limit 8 h; TLV – Adopted Value)
USA ACGIH	ACGIH STEL (mg/m ³)	1500 mg/m ³
USA ACGIH	ACGIH STEL (ppm)	500 ppm
USA OSHA	OSHA PEL (TWA)(mg/m ³)	1200 mg/m ³
USA OSHA	OSHA PEL (TWA)(ppm)	400 ppm
Toluene (108-88-3)		
USA ACGIH	ACGIH TWA (mg/m ³)	75 mg/m ³
USA ACGIH	ACGIH TWA (ppm)	20 ppm
USA OSHA	OSHA PEL (TWA)(ppm)	200 ppm
USA OSHA	OSHA PEL (Ceiling)(ppm)	300 ppm

n-Heptane (142-82-5)		
USA ACGIH	ACGIH TWA (ppm)	400 ppm (Heptane, all isomers; USA; Time-weighted average exposure limit 8 h; TLV – Adopted Value)
USA ACGIH	ACGIH STEL (ppm)	500 ppm (Heptane, all isomers; USA; Short time value; TLV – Adopted Value)
Heptane, Branched Cyclic (426260-76-6)		
USA ACGIH	ACGIH TWA (ppm)	400 ppm
USA ACGIH	ACGIH STEL (ppm)	500 ppm
USA OSHA	OSHA PEL (TWA)(ppm)	500 ppm
Distillates (Petroleum), Hydrotreated Heavy Naphthenic (64742-52-5)		
USA ACGIH	ACGIH TWA (mg/m ³)	5 mg/m ³ MIST 8 HOURS
USA OSHA	OSHA PEL (TWA)(mg/m ³)	5 mg/m ³ MIST 8 HOURS
Petroleum Gases, Liquefied, Sweetened (68476-86-8)		
USA ACGIH	ACGIH TWA (ppm)	1000 ppm Listed under Aliphatic hydrocarbon gases alkane C1-C4
USA OSHA	OSHA PEL (TWA)(mg/m ³)	1800 mg/m ³
USA OSHA	OSHA PEL (TWA)(ppm)	1000 ppm
Carbon dioxide, liquefied, under pressure (124-38-9)		
USA ACGIH	ACGIH TWA (mg/m ³)	9000 mg/m ³
USA ACGIH	ACGIH TWA (ppm)	5000 ppm (Carbon dioxide; USA; Time-weighted average exposure limit 8 h; TLV – Adopted Value)
USA ACGIH	ACGIH STEL (mg/m ³)	54000
USA ACGIH	ACGIH STEL (ppm)	30000 ppm
USA OSHA	OSHA PEL (TWA)(mg/m ³)	9000 mg/m ³
USA OSHA	OSHA PEL (TWA)(ppm)	5000 ppm
Methanol (67-56-1)		
USA ACGIH	ACGIH TWA (mg/m ³)	262 mg/m ³
USA ACGIH	ACGIH TWA (ppm)	200 ppm (Methanol; USA; Time-weighted average exposure limit 8 h; TLV – Adopted Value)
USA ACGIH	ACGIH STEL (mg/m ³)	328 mg/m ³
USA ACGIH	ACGIH STEL (ppm)	250 ppm
USA OSHA	OSHA PEL (TWA)(mg/m ³)	260 mg/m ³
USA OSHA	OSHA PEL (TWA)(ppm)	200 ppm
2-Propanol (67-63-0)		
USA ACGIH	ACGIH TWA (mg/m ³)	980 mg/m ³
USA ACGIH	ACGIH TWA (ppm)	400 ppm
USA ACGIH	ACGIH STEL (mg/m ³)	1225 mg/m ³
USA ACGIH	ACGIH STEL (ppm)	500 ppm
USA OSHA	OSHA PEL (TWA)(mg/m ³)	980 mg/m ³
USA OSHA	OSHA PEL (TWA)(ppm)	400 ppm
Methyl Isobutyl Ketone (108-10-1)		
USA ACGIH	ACGIH TWA (ppm)	20 ppm (Methyl isobutyl ketone; USA; Time-weighted average exposure limit 8 h; TLV – Adopted Value)
USA ACGIH	ACGIH STEL (ppm)	75 ppm (Methyl isobutyl ketone; USA; Short time value; TLV – Adopted Value)
Ethanol (64-17-5)		
USA ACGIH	ACGIH STEL (ppm)	1000 ppm (Ethanol; USA; Short time value; TLV – Adopted Value)
2,6-Di-tert-butyl-p-cresol (128-37-0)		
USA ACGIH	ACGIH TWA (mg/m ³)	2 mg/m ³ (Butylated hydroxytoluene (BHT); USA; Time-weighted average exposure limit 8 h; TLV – Adopted Value; Inhalable fraction and vapor)

Exposure controls

Appropriate engineering controls
 Personal protective equipment:

Local exhaust ventilation, vent hoods. Ensure good ventilation of the work station.
 Gloves. Safety glasses. Avoid all unnecessary exposure.



Materials for protective clothing:	GIVE EXCELLENT RESISTANCE:
Hand protection:	Wear protective gloves.
Eye protection:	Chemical goggles or safety glasses.
Skin and body protection:	Wear suitable protective clothing.
Respiratory protection:	Where exposure through inhalation may occur from use, respiratory protection equipment is recommended.
Environmental exposure controls:	Avoid release to the environment.
Consumer exposure controls:	Avoid contact during pregnancy/while nursing.
Other information:	Do not eat, drink or smoke during use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State:	Gas
Appearance:	Colorless to pale yellow liquid
Color:	Colorless to light yellow
Odor:	Sweet
Odor threshold:	No data available
pH:	No data available
Relative evaporation rate (butyl acetate=1):	No data available
Melting point:	No data available
Freezing point:	No data available
Boiling point:	-42 °C (Lowest Component)
Flash point:	-23 °C (Lowest Component)
Self ignition temperature:	180 °C (Lowest Component)
Decomposition temperature:	No data available
Flammability (solid, gas):	No data available
Vapor pressure:	No data available
Relative vapor density at 20°C:	> 1.5
Relative density:	No data available
Solubility:	Poorly soluble in water
Log Pow	No data available
Log Kow	No data available
Viscosity, kinematic:	No data available
Viscosity, dynamic:	No data available
Explosive properties:	Heating may cause an explosion. Heating may cause a fire.
Oxidizing properties:	No data available
Explosive limits:	No data available

Other information

VOC content	93.3%
Gas group	Compressed gas

10. STABILITY AND REACTIVITY

Reactivity

No additional information available

Chemical Stability

Extremely flammable aerosol. Contains gas under pressure; may explode if heated. Extreme risk of explosion by shock, friction, fire or other sources of ignition.

Possibility of Hazardous Reactions

Not established.

Conditions to Avoid

Direct sunlight. Extremely high or low temperatures. Heat. Sparks, Open flame. Overheating.

Incompatible Materials

Strong acids. Strong bases.

Hazardous Decomposition Products

Toxic fume. Carbon monoxide. Carbon dioxide.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity: Not classified

Diethyl Ether (60-29-7)	
LD50 oral rat	1215 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Experimental value; 1600 mg/kg bodyweight; Rat)
LD50 dermal rabbit	> 14200 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	99 mg/l/4h (Rat)
LC50 inhalation rat (ppm)	32000 ppm/4h (Rat)
Toluene (108-88-3)	
LD50 oral rat	5580 mg/kg body weight (Rat; Equivalent or similar to OECD 401; Literature study; 5580 mg/kg bodyweight; Rat; Experimental value)
LD50 dermal rabbit	>5000 mg/kg body weight LD50 quoted as 14.1 mL/kg (12267 mg/kg using density of 0.87)
LC50 inhalation rat (mg/l)	> 28.1 mg/l/4h (Rat; Air, Literature study)
n-Heptane (142-82-5)	
LD50 oral rat	> 15000 mg/kg (Rat; Equivalent or similar to OECD 401; Literature study; >5000 mg/kg body weight; Rat; Read-across)
LD50 dermal rabbit	> 3160 mg/kg (Rabbit; Literature study; Equivalent or similar to OECD 402; >2000 mg/kg bodyweight; Rabbit; Read across)
LC50 inhalation rat (mg/l)	103 mg/l/4h (Rat; Literature study)
LC50 inhalation rat (ppm)	25000 ppm/4h (Rat; Literature study)
Heptane, Branched Cyclic (426260-76-6)	
LD50 oral rat	> 15000 mg/kg (Rat; Equivalent or similar to OECD 401; Literature study; >5000 mg/kg bodyweight; Rat; Read-across)
LD50 dermal rat	> 3160 mg/kg (Rabbit; Literature study; Equivalent or similar to OECD 402; >2000 mg/kg bodyweight; Rabbit; Read-across)
LC50 inhalation rat (mg/l)	103 mg/l/4h (Rat; Literature study)
LC50 inhalation rat (ppm)	25000 ppm/4h (Rat; Literature study)
Distillates (Petroleum), Hydrotreated Heavy Naphthenic (64742-52-5)	
LD50 oral rat	> 5000 mg/kg body weight

Methanol (67-56-1)	
LD50 oral rat	>=2528 mg/kg body weight application as 50% aqueous solution
LD50 dermal rabbit	17100 mg/kg corresponding to 20 ml/kg bw according to the authors
LC50 inhalation rat (mg/l)	128.2 mg/l/4h Air
2-Propanol (67-63-0)	
LD50 dermal rabbit	12870 mg/kg (Rabbit; Experimental value; Equivalent or similar to OECD 402; 16.4; Rabbit)
LC50 inhalation rat (mg/l)	73 mg/l/4h (Rat)
Methyl isobutyl Ketone (108-10-1)	
LD50 oral rat	2080 mg/kg (Rat; Equivalent or similar to OECD 401; Experimental value)
LD50 dermal rat	>=2000 mg/kg body weight (Rat; Experimental value; OECD 402: Acute Dermal Toxicity)
LD50 dermal rabbit	> 16000 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	8.2- 16.4, Rat; Experimental value
LC50 inhalation rat (ppm)	2000 ppm/4h (Rat; Experimental value, Rat; Experimental value)
Ethanol (64-17-5)	
LD50 oral rat	10740 mg/kg body weight (Rat; OECD 401: Acute Oral Toxicity; Experimental value)
LD50 dermal rabbit	> 16000 mg/kg (Rabbit; Literature study)
2,6-Di-tert-butyl-p-cresol (128-37-0)	
LD50 oral rat	890 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Experimental value; >6000 mg/kg bodyweight; Rat)
LD50 dermal rat	> 2000 mg/kg (Rat; Literature study; OECD 402; Acute Dermal Toxicity; >2000 mg/kg bodyweight; Rat; Experimental value)

Skin corrosion/irritation: Causes skin irritation.

Serious eye damage/irritation: Not classified

Respiratory or skin sensitization: Not classified

Germ cell mutagenicity: Not classified

Carcinogenicity: Suspected of causing cancer.

Toluene (108-88-3)	
IARC group	3
Distillates (Petroleum), Hydrotreated Heavy Naphthenic (64742-52-5)	
IARC group	3
2-Propanol (67-63-0)	
IARC group	3
Ethanol (64-17-5)	
IARC group	1
2,6-Di-tert-butyl-p-cresol (128-37-0)	
IARC group	3

Reproductive toxicity: Suspected of damaging fertility or the unborn child.

Specific target organ toxicity (single version): May cause drowsiness or dizziness.

Specific target organ toxicity (repeated exposure): May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard: Not classified.

Potential Adverse human health effects and symptoms: Based on available data, the classification criteria are not met.

Symptoms/injuries after inhalation: Shortness of breath. May cause drowsiness or dizziness.

Symptoms/injuries after skin contact: Causes skin irritation.

12. ECOLOGICAL INFORMATION

Toxicity:

Diethyl Ether (60-29-7)	
LC50 fish 2	2560 mg/l (LC50; 96 h; Pimephales promelas)
EC50 Daphnia 2	1380 mg/l (48 h; Daphnia magna)
n-Heptane (142-82-5)	
EC50 Daphnia 1	0.2 mg/l (LC50; Other; 96 h; Chaetogammarus marinus; Semi-static system; Salt water; Experimental value)
Carbon Dioxide, Liquefied, Under Pressure (124-38-9)	
LC50 fish 1	35 mg/l (LC50; 96 h; Salmo gairdneri)
Methanol (67-56-1)	
LC50 fish 1	15,400 mg/l (LC50; EPA 660/3 – 75/009; 96 h; Lepomis macrochirus; Flow-through system; Fresh water; Experimental value)
EC50 Daphnia 1	> 10000 mg/l (EC50; DIN 38412-11; 48 h; Daphnia magna; Static system; Fresh water; Experimental value)
LC50 fish 2	10800 mg/l (LC50; 96 h; Salmo gairdneri)
2-Propanol (67-63-0)	
LC50 fish 2	9640 mg/l (LC50; OECD 203: Fish, Acute Toxicity Test; 96 h; Pimephales promelas; Flow-through system; Fresh water; Experimental value)
EC50 Daphnia 2	13299 mg/l (EC50 ; Other ; 48 h ; Daphnia magna)
Ethanol (64-17-5)	
LC50 fish 2	13000 mg/l (LC50; 96 h; Salmo gairdneri; Static system; Fresh water)
2,6-Di-tert-butyl-p-cresol (128-37-0)	
LC50 fish 1	>= 0.57 mg/l (LC0; EU Method C.1; 96 h; Brachydanio rerio; Semi-static system; Fresh water; Experimental value)
EC50 Daphnia 1	0.48 mg/l (EC50; OECD 202: Daphnia sp. Acute Immobilisation Test; 48 h; Daphnia magna; Static system; Fresh water; Experimental value)
LC50 fish 2	0.199 mg/l (LC50; ECOSAR v1.00; 96 h; Pisces)
EC50 Daphnia 2	0.15 mg/l (NOEC; OECD 202: Daphnia sp. Acute Immobilisation Test; 48 h; Daphnia magna; Static system; Fresh water; Experimental value)

Persistence and degradability:

Autoguard Starting Fluid 10.7 OZ.	
Persistence and degradability	Not established
Diethyl Ether (60-29-7)	
Persistence and degradability	Not readily biodegradable in water. No (test) data on mobility of the substance available. Reacts with air.
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	2.60 g O ₂ /g substance
BOD (% of ThOD)	0.012
Toluene (108-88-3)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Low potential for absorption in soil.
Biochemical oxygen demand (BOD)	2.15 g O ₂ /g substance
Chemical oxygen demand (COD)	2.52 g O ₂ /g substance
ThOD	3.13 g O ₂ /g substance
BOD (% of ThOD)	0.69

n-Heptane (142-82-5)	
Persistence and degradability	Readily biodegradable in water. Forming sediments in water. Biodegradable in the soil. Low potential for adsorption in soil. Photolysis in the air.
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
BOD (% of ThOD)	> 0.5 (5 days; Literature study)
Heptane, Branched Cyclic (426260-76-6)	
Persistence and degradability	May cause long-term adverse effects in the environment.
Distillates (Petroleum), Hydrotreated Heavy Naphthenic (64742-52-5)	
Persistence and degradability	Not established.
Petroleum gases, liquefied, sweetened (68476-86-8)	
Persistence and degradability	Not established
Carbon Dioxide, Liquefied, Under Pressure (124-38-9)	
Persistence and degradability	Biodegradability; not applicable. Not applicable (gas).
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
Methanol (67-56-1)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Highly mobile in soil.
Biochemical oxygen demand (BOD)	0.6- 1.12 g O ₂ /g substance
Chemical oxygen demand (COD)	1.42 g O ₂ /g substance
ThOD	1.5 g O ₂ /g substance
BOD (% of ThOD)	0.8 (Literature study)
2-Propanol (67-63-0)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. No (test) data on mobility of the substance available.
Biochemical oxygen demand (BOD)	1.19 g O ₂ /g substance
Chemical oxygen demand (COD)	2.23 g O ₂ /g substance
ThOD	2.40 g O ₂ /g substance
Methyl Isobutyl Ketone (108-10-1)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. Low potential for adsorption in soil. Photolysis in the air. Not established.
Biochemical oxygen demand (BOD)	2.06 g O ₂ /g substance
Chemical oxygen demand (COD)	2.16 g O ₂ /g substance
ThOD	2.72 g O ₂ /g substance
BOD (% of ThOD)	0.76
Ethanol (64-17-5)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. No (test) data on mobility of the substance available.
Biochemical oxygen demand (BOD)	0.8 – 0.967 g O ₂ /g substance
Chemical oxygen demand (COD)	1.70 O ₂ /g substance
ThOD	2.10 g O ₂ /g substance
Chloroethane (75-00-3)	
Persistence and degradability	May cause long-term adverse effects in the environment.
2,6-Di-tert-butyl-p-cresol (128-37-0)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Adsorbs into the soil. Low potential for mobility in soil. Photo-oxidation in the air.
Biochemical oxygen demand (BOD)	0.51 g O ₂ /g substance
Chemical oxygen demand (COD)	2.27 g O ₂ /g substance
ThOD	2.977 g O ₂ /g substance
BOD (% of ThOD)	0.17

Bioaccumulative potential:

Autoguard Starting Fluid 10.7 OZ.	
Bioaccumulative potential	Not established

Diethyl Ether (60-29-7)	
BCF fish 1	0.9 – 9.1 (BCF)
Log Pow	0.82 – 0.89 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500)
Toluene (108-88-3)	
BCF fish 2	90 (BCF; 72 h; Leuciscus idus; Static system; Fresh water)
Log Pow	2.73 (Experimental value; Other; 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500)
n-Heptane (142-82-5)	
BCF other aquatic organisms 1	552 (BCF; BCFBAF v3.00)
Log Pow	4.66 (4.5; Experimental value; 4.5; Literature study)
Bioaccumulative potential	Potential for bioaccumulation ($4 \geq \text{Log Kow} \leq 5$).
Heptane, branched cyclic (426260-76-6)	
Bioaccumulative potential	Not established
Distillates (Petroleum), Hydrotreated Heavy Naphthenic (64742-52-5)	
Bioaccumulative potential	Not established.
Petroleum gases, liquefied, sweetened (68476-86-8)	
Bioaccumulative potential	Not established
Carbon Dioxide, Liquefied, Under Pressure (124-38-9)	
Log Pow	0.83 (Experimental value)
Bioaccumulative potential	Bioaccumulation: not applicable
Methanol (67-56-1)	
BCF fish 1	< 10 (BCF; 72 h; Leuciscus idus)
Log Pow	-0.77 (Experimental value; Other)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
2-Propanol (67-63-0)	
Log Pow	0.05 (Weight of evidence approach; Other; 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
Methyl Isobutyl Ketone (108-10-1)	
BCF fish 1	2 – 5 (BCF)
Log Pow	1.9 (Experimental value; OECD 117: Partition Coefficient (n-octanol/water), HPLC method)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500). Not established.
Ethanol (64-17-5)	
Log Pow	-0.35 (Experimental value; OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method; 24 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
Chloroethane (75-00-3)	
Bioaccumulative potential	Not established.
2,6-Di-tert-butyl-p-cresol (128-37-0)	
BCF fish 1	230 – 2500 (BCF; OECD 305: Bioconcentration: Flow-Through Fish Test; 56 days; Cyprinus carpio; Flow-through system; Fresh water; Experimental value)
Log Pow	5.1 (Experimental value)
Bioaccumulative potential	Potential for bioaccumulation ($500 \leq \text{BCF} \leq 5000$).

Mobility in soil:

Diethyl Ether (60-29-7)	
Surface tension	0.017 N/m (20 °C)
Toluene (108-88-3)	
Surface tension	0.03 N/m (20 °C)
n-Heptane (142-82-5)	
Surface tension	0.019 N/m (25 °C; 0.020 N/m; 20 °C)
Log Koc	Log Koc, SRC PCKOCWIN v2.0; 2.38; Calculated value
Methanol (67-56-1)	
Surface tension	0.023 N/m (20 °C)
Log Koc	Koc, PCKOCWIN v1.66; 1; Calculated value
2-Propanol (67-63-0)	
Surface tension	0.021 N/m (25 °C)

Methyl Isobutyl Ketone (108-10-1)	
Surface tension	0.024 N/m (20 °C)
Log Koc	Koc, 101.85; Weight of evidence; Calculated value; log Koc; 2.008; Weight of evidence; Calculated value
Ethanol (64-17-5)	
Surface tension	0.0245 N/m (20 °C)
2,6-Di-tert-butyl-p-cresol (128-37-0)	
Log Koc	Koc,PCKOCWIN v1.66; 23030; Calculated value; log Koc; PCKOCWIN v1.66; 4.362; Calculated value
Ecology - soil	May be harmful to plant growth, blooming and fruit formation.

Other adverse effects:
Avoid release to the environment.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste disposal recommendations: Dispose in a safe manner in accordance with local/national regulations. Container under pressure. Do Not drill or burn even after use. Dispose of contents/container to appropriate waste disposal facility in accordance with local, regional, national, international regulations.

Additional information: Flammable vapors may accumulate in the container..

Ecology – waste materials: Avoid release to the environment.

14. TRANSPORT INFORMATION

In accordance with ADR / RID / IMDG/ IATA / ADN

US DOT (ground): UN1950, Aerosols, 2. 1, Limited Quantity

ICAO/IATA (air): UN1950, Aerosols, 2, Limited Quantity

IMO/IMDG (water): UN1950, Aerosols, 2.1 (Marine Pollutant - Heptane), Limited Quantity

Special Provisions: N82 – See 173.306 of this subchapter for classification criteria for flammable aerosols

UN proper shipping name

Proper Shipping Name (DOT): Aerosols
Flammable, n.o.s. (engine starting fluid)(each not exceeding 1 L capacity)

Class (DOT): 2.1 – Class 2.1 – Flammable gas 49 CFR 173.115

Hazard labels (DOT): 2.1 – Flammable gas



DOT Special Provisions (49 CFR 172.102) N82 – See 173.306 of this subchapter for classification criteria for flammable aerosols

DOT Packaging Exceptions (49 CFR 173.xxx) 306

DOT Packaging Non Bulk (49 CFR 173.xxx) 304

DOT Packaging Bulk (49 CFR 173.xxx) None

Additional information

Other information : No supplementary information available.

Overland transport

No additional information available

Transport by sea

DOT Vessel Stowage Location : A – The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

DOT Vessel Stowage Other: 48 – Stow "away heat" sources of heat; 87 – Stow "separated from" Class 1 (explosives) except Division 14,126 – Segregation same as for Class 9, miscellaneous hazardous materials.

Subsidiary risks (IMDG) Marine Pollutant - Heptane

Air Transport

DOT Quantity Limitations Passenger aircraft/ Forbidden

rail (49 CFR 173.27) :

DOT Quantity Limitations Cargo aircraft only 150 kg

(49 CFR 175.75):

15. REGULATORY INFORMATION

US Federal Regulations

Autoguard Starting Fluid 10.7 OZ.	
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Fire hazard Immediate (acute) health hazard Sudden release of pressure hazard
Diethyl Ether (60-29-7)	
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Fire hazard
Toulene (108-88-3)	
Subject to reporting requirements of the United States SARA Section 313 Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on the United States SARA Section 301	
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Fire hazard Immediate (acute) health hazard
Heptane, Branched Cyclic (426260-76-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard
Distillates (Petroleum), Hydrotreated Heavy Naphthenic (64742-52-5)	
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard
Petroleum Gases, Liquefied, Sweetened (68476-86-8)	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Fire hazard Sudden release of pressure hazard
Carbon Dioxide, Liquefied, Under Pressure (124-38-9)	
SARA Section 311/312 Hazard Classes	Sudden release of pressure hazard Immediate (acute) health hazard

Methanol (67-56-1)	
Subject to reporting requirements of United States SARA Section 313 Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on the United States SARA Section 302 Listed on the United States SARA Section 355	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard Fire hazard
2-Propanol (67-63-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Fire hazard

International regulations:**CANADA**

Autoguard Starting Fluid 10.7 OZ.	
WHMIS Classification	Class B Division 5 – Flammable Aerosol Class D Division 2 Subdivision B – Toxic material causing other toxic effects
Toluene (108-88-3)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class B Division 2 – Flammable Liquid Class B Division 2 Subdivision A – Very toxic material causing other toxic effects Class D Division 2 Subdivision B – Toxic material causing other toxic effects
Heptane, Branched Cyclic (426260-76-6)	
WHMIS Classification	Class B Division 2 – Flammable Liquid Class D Division Subdivision B – Toxic material causing other toxic effects
Methanol (67-56-1)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class B Division 2 – Flammable Liquid Class D Division 1 Subdivision B – Toxic material causing immediate and serious toxic effects Class D Division 2 Subdivision A – Very toxic material causing other toxic effects Class D Division 2 Subdivision B – Toxic material causing other toxic effects
2-Propanol (67-63-0)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class B Division 2 – Flammable Liquid

EU – Regulations

Toluene (108-88-3)	
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)	
Heptane, Branched Cyclic (426260-76-6)	
Methanol (67-56-1)	
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)	
2-Propanol (67-63-0)	
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)	

Classification according to Regulation (EC) No. 1272/2008 [CLP]**Classification according to Directive 67/548/EEC or 1999/45/EC**

Carc. Cat. 1; R45
Muta. Cat. 2; R46
Repr. Cat. 3; R63
F+; R12
Xn; R22
Xi; R38
R19

Full text of R-phrases: See Section 16

National Regulations

Heptane, Branched Cyclic (426260-76-6)
All components are either listed on the US TSCA Inventory, or are not regulated under TSCA under 40 CFR 720.30.
Methanol (67-56-1)
Listed on the Canadian IDL (ingredient Disclosure List)
2-Propanol (67-63-0)
Listed on the AICS (Australian Inventory of Chemical Substances) Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Listed on KECI (Korean Existing Chemicals Inventory) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

US State regulations

AUTOGUARD STARTING FLUID 10.7 OZ.				
U.S. – California – Proposition 65 – Carcinogens List		No		
U.S. – California – Proposition 65 – Developmental Toxicity		No		
U.S. – California – Proposition 65 – Reproductive Toxicity - Female		No		
U.S. – California – Proposition 65 – Reproductive Toxicity - Male		No		
State or local regulations		U.S. – California – Proposition 65		
Diethyl Ether (60-29-7)				
U.S. – California – Proposition 65 – Carcinogens List	U.S. – California – Proposition 65 – Developmental Toxicity	U.S. – California – Proposition 65 – Reproductive Toxicity – Female	U.S. – California – Proposition 65 – Reproductive Toxicity – Male	Non-significant risk level (NSRL)
No	Yes	No	No	
Toluene (108-88-3)				
U.S. – California – Proposition 65 – Carcinogens List	U.S. – California – Proposition 65 – Developmental Toxicity	U.S. – California – Proposition 65 – Reproductive Toxicity – Female	U.S. – California – Proposition 65 – Reproductive Toxicity – Male	Non-significant risk level (NSRL)
No	Yes	No	No	
n-Heptane (142-82-5)				
U.S. – California – Proposition 65 – Carcinogens List	U.S. – California – Proposition 65 – Developmental Toxicity	U.S. – California – Proposition 65 – Reproductive Toxicity – Female	U.S. – California – Proposition 65 – Reproductive Toxicity – Male	Non-significant risk level (NSRL)
No	No	No	No	
Heptane, Branched Cyclic (426260-76-6)				
U.S. – California – Proposition 65 – Carcinogens List	U.S. – California – Proposition 65 – Developmental Toxicity	U.S. – California – Proposition 65 – Reproductive Toxicity – Female	U.S. – California – Proposition 65 – Reproductive Toxicity – Male	Non-significant risk level (NSRL)
No	No	No	No	
Distillates (Petroleum), Hydrotreated Heavy Naphthenic (64742-52-5)				
U.S. – California – Proposition 65 – Carcinogens List	U.S. – California – Proposition 65 – Developmental Toxicity	U.S. – California – Proposition 65 – Reproductive Toxicity – Female	U.S. – California – Proposition 65 – Reproductive Toxicity – Male	Non-significant risk level (NSRL)
No	No	No	No	
Petroleum Gases, Liquefied, Sweetened (68476-86-8)				
U.S. – California – Proposition 65 – Carcinogens List	U.S. – California – Proposition 65 – Developmental Toxicity	U.S. – California – Proposition 65 – Reproductive Toxicity – Female	U.S. – California – Proposition 65 – Reproductive Toxicity – Male	Non-significant risk level (NSRL)
No	No	No	No	

Carbon Dioxide, Liquefied, Under Pressure (124-38-9)				
U.S. – California – Proposition 65 – Carcinogens List	U.S. – California – Proposition 65 – Developmental Toxicity	U.S. – California – Proposition 65 – Reproductive Toxicity – Female	U.S. – California – Proposition 65 – Reproductive Toxicity – Male	Non-significant risk level (NSRL)
No	No	No	No	
Methanol (67-56-1)				
U.S. – California – Proposition 65 – Carcinogens List	U.S. – California – Proposition 65 – Developmental Toxicity	U.S. – California – Proposition 65 – Reproductive Toxicity – Female	U.S. – California – Proposition 65 – Reproductive Toxicity – Male	Non-significant risk level (NSRL)
No	Yes	No	No	
2-Propanol (67-63-0)				
U.S. – California – Proposition 65 – Carcinogens List	U.S. – California – Proposition 65 – Developmental Toxicity	U.S. – California – Proposition 65 – Reproductive Toxicity – Female	U.S. – California – Proposition 65 – Reproductive Toxicity – Male	Non-significant risk level (NSRL)
No	No	No	No	
Methyl Isobutyl Ketone (108-10-1)				
U.S. – California – Proposition 65 – Carcinogens List	U.S. – California – Proposition 65 – Developmental Toxicity	U.S. – California – Proposition 65 – Reproductive Toxicity – Female	U.S. – California – Proposition 65 – Reproductive Toxicity – Male	Non-significant risk level (NSRL)
Yes	No	No	No	
Ethanol (64-17-5)				
U.S. – California – Proposition 65 – Carcinogens List	U.S. – California – Proposition 65 – Developmental Toxicity	U.S. – California – Proposition 65 – Reproductive Toxicity – Female	U.S. – California – Proposition 65 – Reproductive Toxicity – Male	Non-significant risk level (NSRL)
No	No	No	No	
Chloroethane (75-00-3)				
U.S. – California – Proposition 65 – Carcinogens List	U.S. – California – Proposition 65 – Developmental Toxicity	U.S. – California – Proposition 65 – Reproductive Toxicity – Female	U.S. – California – Proposition 65 – Reproductive Toxicity – Male	Non-significant risk level (NSRL)
No	No	No	No	
2,6-Di-tert-butyl-p-cresol (128-37-0)				
U.S. – California – Proposition 65 – Carcinogens List	U.S. – California – Proposition 65 – Developmental Toxicity	U.S. – California – Proposition 65 – Reproductive Toxicity – Female	U.S. – California – Proposition 65 – Reproductive Toxicity – Male	Non-significant risk level (NSRL)
No	No	No	No	
Diethyl Ether (60-29-7)				
State or local regulations				
U.S. – California – Proposition 65				
Toluene (108-88-3)				
State or local regulations				
U.S. – California – Proposition 65 U.S. – New Jersey – Special Health Hazards Substances List New Jersey Right-to-Know U.S. – Massachusetts – Right To Know List Rhode Island Right to Know U.S. – Michigan – Critical Materials List U.S. – New Jersey – Environmental Hazardous Substances List U.S. – Illinois – Toxic Air Contaminants U.S. – New York – Reporting of Releases Part 597 – List of Hazardous Substances U.S. – Pennsylvania – RTK (Right to Know) – Environmental Hazard List				

Petroleum Gases, Liquefied, Sweetened (68476-86-8)
State or local regulations
New Jersey Right-to-Know Minnesota Right-to-Know Rhode Island Right to Know U.S. – Pennsylvania – RTK (Right to Know) – Environmental Hazard List U.S. – Massachusetts – Right To Know List
Methanol (67-56-1)
State or local regulations
U.S. – California – Proposition 65 New Jersey Right-to-Know Florida Right to Know U.S. – Massachusetts – Right To Know List U.S. – Pennsylvania – RTK (Right to Know) – Environmental Hazard List
2-Propanol (67-63-0)
State or local regulations
U.S. – New Jersey – Special Health Hazards Substances List U.S. – Pennsylvania – RTK (Right to Know) – Environmental Hazard List
Methyl Isobutyl Ketone (108-10-1)
State or local regulations
U.S. – California – Proposition 65

16. OTHER INFORMATION

Training advice: Ensure operators understand the flammability hazard. Ensure operators understand the hazard of oxygen enrichment. Receptacle under pressure.

Other information: None

Full text of H-phrases:

H220	Extremely flammable gas
H222	Extremely flammable aerosol
H224	Extremely flammable liquid and vapor
H225	Highly flammable liquid and vapor
H280	Contains gas under pressure; may explode if heated
H301	Toxic if swallowed
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways

H311	Toxic in contact with skin
H315	Causes skin irritation
H319	Causes serious eye irritation
H331	Toxic if inhaled
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H351	Suspected of causing cancer
H361	Suspected of damaging fertility or the unborn child
H370	Causes damage to organs
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

NFPA health hazard: 2 – Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA fire hazard: 4 – Will rapidly or completely vaporize at normal pressure and temperature, or is readily dispersed in air and will burn readily

NFPA reactivity 0 – Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating:

Health 2 Moderate Hazard – Temporary or minor injury may occur

Flammability 4 Severe Hazard

Physical 1 Slight Hazard

Personal Protection B

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Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet