

SAFETY DATA SHEET**Ethanol E85**

The safety data sheet is in accordance with Commission Regulation (EU) 2020/878 of 18 June 2020 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

SECTION 1: Identification of the substance / mixture and of the company / undertaking

Date issued 22.10.2019

Revision date 05.10.2023

1.1. Product identifier

Product name Ethanol E85

Synonyms Ethanol fuel, ethanol and gasoline mixture

Extended SDS with ES incorporated Yes

1.2. Relevant identified uses of the substance or mixture and uses advised against

Product group Fuel

Use of the substance / mixture Fuel for flexible fuel vehicles that can run on any mixture of ethanol and gasoline

Formulation & (re)packing of substances and mixtures, industrial (Gasoline)
Use as a fuel, industrial (Gasoline)
Use as a fuel, professional (Gasoline)
Use as a fuel, consumer (Gasoline)

Formulation & (re)packing of substances and mixtures, industrial (Ethanol)
Use as a fuel, industrial (Ethanol)
Use as a fuel, professional (Ethanol)
Use as a fuel, consumer (Ethanol)

Uses advised against Applications that are not registered and risk assessed.

1.3. Details of the supplier of the safety data sheet

Company name St1 Sverige AB

Postal address Box 11057

Postcode SE-161 11

City Bromma

Country	Sweden
Telephone number	+46 (0) 31 744 6000
Email	Supply-Sweden@st1.se
Website	www.st1.se

1.4. Emergency telephone number

Emergency telephone	Telephone number: 111 (NHS) Description: For poisoning emergencies (UK)
	Telephone number: 112 Description: Within Sweden: Ask for Poison Information

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP / GHS]	Flam. Liq. 2; H225
	Asp. Tox. 1; H304
	Skin Irrit. 2; H315
	Eye Irrit. 2; H319
	STOT SE 3; H336
	Muta. 1B; H340
	Carc. 1B; H350
	Repr. 2; H361
	Aquatic Chronic 2; H411

Substance / mixture hazardous properties	Highly flammable liquid and vapour. May be fatal if swallowed and enters airways. Irritating to eyes and skin. May cause drowsiness or dizziness. May cause genetic defects . May cause cancer. Suspected of damaging fertility or the unborn child. Toxic to aquatic life with long lasting effects.
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2.2. Label elements

Hazard pictograms (CLP)



Composition on the label	Gasoline
Signal word	Danger
Hazard statements	H225 Highly flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.
 H315 Causes skin irritation.
 H319 Causes serious eye 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
 H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P201 Obtain special instructions before use.
 P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P280 Wear protective gloves / protective clothing / eye protection / face protection.
 P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor / physician. P331 Do NOT induce vomiting.
 P308+P313 IF exposed or concerned: Get medical advice / attention.
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.
 P501 Dispose of contents / container to an approved waste disposal plant.

2.3. Other hazards**PBT / vPvB**

The mixture does not meet current criteria for PBT (Persistent, bioaccumulative and toxic) or vPvB (very persistent and very bioaccumulative).

Physicochemical effects

Static accumulator: This product may accumulate static electricity.
 Liquid evaporates quickly and may ignite, leading to a flash fire or an explosion in a confined space.
 The vapours are heavier than air and will spread along the floor. Can form explosive gas-air mixtures.

Health effect

Slightly irritating to respiratory system.
 Parts of the chemical might be absorbed through the skin.
 One or more component(s) of this material may cause cancer.
 This product contains benzene which may cause leukaemia (AML acute myelogenous leukaemia) and MDS (Myelodysplastic Syndrome).

Other hazards

MTBE, CAS 1634-04-4 is listed on ECHA's Endocrine disruptor assessment list.
 Status "Concluded" outcome: inconclusive

SECTION 3: Composition / information on ingredients**3.2. Mixtures**

Substance	Identification	Classification	Contents	Notes
Ethanol	CAS No.: 64-17-5 EC No.: 200-578-6 Index No.: 603-002-00-5 REACH Reg. No.: 01-2119457610-43	Flam. Liq. 2; H225; Eye Irrit. 2; H319;	75 - 85 %	

Gasoline	CAS No.: 86290-81-5 EC No.: 289-220-8 REACH Reg. No.: 01-2119471335-39	Flam. Liq. 1; H224 Asp. Tox. 1; H304 Skin Irrit. 2; H315 STOT SE 3; H336 Muta. 1B; H340 Carc. 1B; H350 Repr. 2; H361fd Aquatic Chronic 2; H411	15 - -25 %
MTBE	CAS No.: 1634-04-4 EC No.: 216-653-1 REACH Reg. No.: 01-2119452786-27	Flam. Liq. 2; H225 Skin Irrit. 2; H315	0 - -5 %
ETBE	CAS No.: 637-92-3 EC No.: 211-309-7 REACH Reg. No.: 01-2119452785-29	Flam. Liq. 2; H225 STOT SE 3; H336	0 - -5 %
Isobutanol	CAS No.: 78-83-1 EC No.: 201-148-0 REACH Reg. No.: 01-2119484609-23	Flam. Liq. 3; H226 STOT SE 3; H335 Skin Irrit. 2; H315 Eye Dam. 1; H318 STOT SE 3; H336	< 1 %
Toluene	CAS No.: 108-88-3 EC No.: 203-625-9 Index No.: 601-021-00-3	Flam. Liq. 2; H225; Repr. 2; H361d; Asp. tox. 1; H304; STOT RE 2; H373; Skin Irrit. 2; H315; STOT SE 3; H336;	< 3 %
n-Hexane	CAS No.: 110-54-3 EC No.: 203-777-6 Index No.: 601-037-00-0	Flam. Liq. 2; H225; Repr. 2; H361f; Asp. tox. 1; H304; STOT RE 2; H373; Skin Irrit. 2; H315; STOT SE 3; H336; Aquatic Chronic 2; H411;	< 1,5 %
Benzene	CAS No.: 71-43-2 EC No.: 200-753-7 Index No.: 601-020-00-8	Flam. Liq. 2; H225; Carc. 1A; H350; Muta. 1B; H340; STOT RE 1; H372; Asp. tox. 1; H304; Eye Irrit. 2; H319; Skin Irrit. 2; H315;	< 0,5 %

Description of the mixture	<p>A complex mixture of hydrocarbons consisting of paraffin's, cycloparaffin's, aromatic and olefinic hydrocarbons (including benzene in a maximum of 1.0% vol) with carbon numbers predominantly in the range of C4 to C12.</p> <p>Contains oxygen-containing hydrocarbons which may consist of methyl tertiary butyl ether (MTBE) and other ethers.</p> <p>Contains oxygenated hydrocarbons, including ethanol and other alcohols. May also contain several additives at < 0.1% (vol/vol).</p>
Substance comments	<p>The substances without REACH registration number (toluene, n-hexane, benzene) are included in gasoline (CAS 86290-81-5) and therefore these substances do not need to be registered separately.</p> <p>See section 16 for explanation of hazard statements (H) listed above.</p>

SECTION 4: First aid measures

4.1. Description of first aid measures

General	<p>Emergency telephone number: see section 1.4. If medical advice is needed, have safety data sheet or label available at hand.</p>
Inhalation	<p>Remove victim to fresh air and keep at rest in a position comfortable for breathing.</p> <p>Call a POISON CENTER or doctor/physician if you feel unwell.</p> <p>When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. If breathing stops, provide artificial respiration.</p>
Skin contact	<p>Promptly flush contaminated skin with water. Promptly remove clothing if soaked through and flush the skin with water.</p> <p>Follow by washing with soap and water. If skin irritation or rash occurs: Get medical advice/ attention.</p> <p>After extensive contact with the skin, where absorption of the substance through the skin may take place in amounts that may cause poisoning, the victim should be transported to the hospital for monitoring and Medical treatment.</p>
Eye contact	<p>Flush immediately with plenty of water for at least 5 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>If eye irritation persists: Get medical advice/attention.</p>
Ingestion	<p>Rinse mouth thoroughly. DO NOT induce vomiting if swallowed chemical is dissolved in petroleum-based material. Danger of aspiration and development of chemical pneumonia.</p> <p>If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical attention immediately!</p>

4.2. Most important symptoms and effects, both acute and delayed

Acute symptoms and effects	<p>Inhalation: Solvent vapours are hazardous and may cause nausea, sickness and headaches. Auditory system effects may include temporary hearing loss and/or ringing in the ears.</p> <p>Skin contact: The chemical irritates the skin and can cause itching, burning and redness. Penetrates the skin and in cases of extensive skin contact, the same symptoms as at inhalation can occur.</p> <p>Eye contact: Irritation, burning, lachrymation, blurred vision after liquid splash.</p> <p>Ingestion: Ingestion: Poisoning symptoms such as headaches, fatigue, shortness of breath may occur. Symptoms such as coughing, breathing difficulties, vomiting</p>
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or lethargy may indicate chemical pneumonitis.

Delayed symptoms and effects	Symptoms of chemical pneumonia may occur within 24 hours of difficulty breathing and coughing. Suspected of damaging fertility or the unborn child.
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4.3. Indication of any immediate medical attention and special treatment needed

Medical monitoring for delayed effects	Delayed effects, such as symptoms of chemical pneumonia after aspiration, should be medically monitored.
Other information	Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	In case of major fire and large quantities: Foam. Water spray, fog or mist. Small fires: Powder. Carbon dioxide (CO ₂). Sand or earth are suitable in small fires.
Improper extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.

5.2. Special hazards arising from the substance or mixture

Fire and explosion hazards	Highly flammable liquid and vapour. Static accumulator: This product may accumulate static electricity. Can form explosive gas-air mixtures. Vapours are heavier than air and may spread near ground to sources of ignition. May travel considerable distance to source of ignition and flash back. The product floats and can be reignited to burn on water surface.
Hazardous combustion products	May include, but is not limited to: Carbon dioxide (CO ₂). Carbon monoxide (CO). Hydrocarbons. Unspecified organic compounds.

5.3. Advice for firefighters

Personal protective equipment	Firefighters who may be exposed to smoke or thermal decomposition products shall wear all available personal protective equipment (PPE) and SCBA mask.
Other information	If there is no risk involved, move the containers to a safe place. If not possible, cool with water from a safe position. Extinguishing water must not be discharged into drains.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	Evacuate area. Provide adequate ventilation. Stop leak if safe to do so. Eliminate all ignition sources if safe to do so. If spill is large contact fire department immediately, dial 999 or 112.
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Personal protection measures Avoid inhalation of vapours and contact with skin and eyes. Use protective equipment as referred to in section 8.

6.2. Environmental precautions

Environmental precautionary measures Do not allow to enter into sewer, water system or soil.
Immediately notify the local authorities about any damage.
Maritime spillages should be dealt with using a Shipboard Oil Pollution Emergency Plan (SOPEP), as required by MARPOL Annex II.

6.3. Methods and material for containment and cleaning up

Clean up Remove ignition sources and work with non-sparking tools.
Small Spillages:
Collect with absorbent, non-combustible material into suitable containers.
Proposals for inert materials: sand, kieselguhr, universal binder.
Collect in a suitable container and dispose as hazardous waste according to section 13.
Large Spillages:
For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water.

6.4. Reference to other sections

Other instructions See also sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Handling Provide adequate ventilation. Local exhaust is recommended.
Avoid inhalation of vapours and contact with skin and eyes. Use protective equipment as referred to in section 8.
Persons in their child bearing years must be informed about the adverse side effects of the Chemical. Pregnant women should not work with the product, if there is the least risk of exposure.
Risk for slippery floors and tools if spilled out. Risk of vapour concentration on the floor and in low-lying areas.

Protective safety measures

Safety measures to prevent fire Smoking and naked flames and other ignition sources are prohibited.
Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Take precautionary measures against static discharges.
Ground / bond container and receiving equipment.
Use only non-sparking tools.
Use explosion-proof electrical / ventilating / lighting / / equipment.

Advice on general occupational hygiene Do not eat, drink or smoke during work. Wash hands at the end of each work shift and before eating, smoking and using the toilet.
Contaminated clothing may pose a fire hazard and should be soaked in water

before being removed. The clothes must be cleaned before further use.

7.2. Conditions for safe storage, including any incompatibilities

Storage

Storage in drums and in small containers:

Use approved containers. Store in tightly closed container in a well-ventilated place. Keep cool.

Tank storage:

Tanks must be specifically designed for use with this product. Bulk storage tanks should be diked (bunded). Locate tanks away from heat and other sources of ignition. Cleaning, inspection and maintenance of storage tanks is a specialist operation, which requires the implementation of strict procedures and precautions.

Follow rules for flammable liquids.

Conditions for safe storage

Packaging compatibilities

Recommended materials:

For containers, or container linings use mild steel, stainless steel. Examples of suitable materials are: high density polyethylene (HDPE), polypropylene (PP), and Viton (FKM), which have been specifically tested for compatibility with this product. For container linings, use amine-adduct cured epoxy paint. For seals and gaskets use: graphite, PTFE, Viton A, Viton B.

Unsuitable materials:

Natural rubber (NR), nitrile rubber (NBR), ethylene propylene rubber (EPDM), polymethyl methacrylate (PMMA), polystyrene, polyvinyl chloride (PVC), and polyisobutylene.

However, some may be suitable for glove materials.

Advice on storage compatibility

Keep away from:

Strong oxidizing agents. Food and feed.

7.3. Specific end use(s)

Specific use(s)

See section 1.2.

SECTION 8: Exposure controls / personal protection

8.1. Control parameters

Substance	Identification	Exposure limits	TWA Year
Ethanol	CAS No.: 64-17-5	Limit value (8 h) : 500 ppm Limit value (8 h) : 950 mg/ m ³	
tert-Butyl methyl ether	CAS No.: 1634-04-4	Limit value (8 h) : 50 ppm Limit value (8 h) : 183,5 mg/ m ³ Limit value (short term)	

		Value: 100 ppm Limit value (short term) Value: 367 mg/m ³
2-Methylpropan-1-ol	CAS No.: 78-83-1	Limit value (8 h) : 50 ppm Limit value (8 h) : 154 mg/m ³ Limit value (short term) Value: 75 ppm Limit value (short term) Value: 231 mg/m ³
Toluene	CAS No.: 108-88-3	Limit value (8 h) : 50 ppm Limit value (8 h) : 191 mg/m ³ Limit value (short term) Value: 100 ppm Limit value (short term) Value: 384 mg/m ³ Exposure limit letter Letter code: Sk
n-Hexane	CAS No.: 110-54-3	Limit value (8 h) : 20 ppm Limit value (8 h) : 72 mg/m ³
Benzene	CAS No.: 71-43-2	Limit value (8 h) : 1 ppm Limit value (8 h) : 3,25 mg/m ³ Exposure limit letter Letter code: Sk; Carc

Other Information about threshold limit values

Gasoline, low boiling point naphtha has an occupational exposure limits value in Sweden: 250 mg/m³ (8h).
Explanation of the notations:
Carc = Capable of causing cancer and/or heritable genetic damage.
Sk = Can be absorbed through the skin.
References (laws/regulations): EH40/2005 Workplace exposure limits, with later amendments.

DNEL / PNEC**DNEL**

Comments: No data available

PNEC

Comments: Substance is a hydrocarbon with a complex, unknown or variable composition. Conventional methods of deriving PNECs are not appropriate and it is not possible to identify a single representative PNEC for such substances.

DMEL

Comments: No data available

8.2. Exposure controls

Precautionary measures to prevent exposure

Technical measures to prevent exposure

If enclosed handling cannot be guaranteed, ventilation and protective clothing must be used.
Explosion-proof general and local exhaust ventilation.
The personal protective equipment must be CE-marked and the latest version of the standards shall be used. The protective equipment and the specified standards recommended below are only suggestions, and should be selected on advice from the supplier of such equipment.
A risk assessment of the work place/work activities (the actual risk) may lead to other control measures. The protection equipment's suitability and durability will depend on application.

Eye / face protection

Eye protection equipment

Description: Wear approved chemical safety goggles where eye exposure is reasonably probable.

Reference to relevant standard: EN ISO 16321-1:2022 (Eye and face protection for occupational use - Part 1: General requirements).

Additional eye protection measures

Eye wash facilities should be available at the work place. Either a fixed eye wash facility connected to the drinking water (preferably warm water) or a portable disposable unit.

Hand protection

Suitable materials

Nitrile.

For incidental contact/splash protection, Neoprene, PVC gloves may be suitable.

Breakthrough time

Comments: Nitrile: > 240 minutes.

Thickness of glove material

Comments: Glove thickness must be chosen in consultation with the glove supplier.

Hand protection equipment

Description: Use protective gloves that are suitable for the application. The gloves abilities may vary among the different glove manufacturers.

Reference to relevant standard: EN ISO 374 (Protective gloves against chemicals and micro-organisms).

EN ISO 21420:2020 (Protective gloves - General requirements and test methods).

Additional hand protection measures

Gloves must only be worn on clean, dry hands.

Wash promptly with soap & water if skin becomes contaminated.

Skin protection

Recommended protective clothing

Description: Where risk of splashing:

Wear impervious protective clothing, gloves, apron and boots.

Additional skin protection measures

Emergency shower should be available at the workplace.

Remove contaminated clothing and wash the skin thoroughly with soap and water after work.

Wash contaminated clothing before reuse.

Respiratory protection

Recommended respiratory protection

Description: In case of insufficient ventilation, use respirator with A filter against solvent vapors.

At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.
Reference to relevant standard: EN 14387 (Respiratory protective devices. Gas filter(s) and combined filter(s). Requirements, testing, marking).

Appropriate environmental exposure control

Environmental exposure controls Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour.
Do not allow to enter into sewer, water system or soil.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Colour	Red.
Odour	Hydrocarbon.
Odour limit	Comments: Data lacking.
pH	Comments: Not relevant.
Melting point / melting range	Value: < -60 °C
Boiling point / boiling range	Value: 35 - 205 °C
Flash point	Value: < 0 °C
Flammability	Highly flammable.
Explosion limit	Value: 3 - 9 vol%
Vapour pressure	Value: 35 - 95 kPa Temperature: 37,8 °C
Vapour density	Value: > 1 Comments: Air=1.
Particle characteristics	Comments: Not relevant for liquids.
Density	Value: 765 - 785 kg/m ³ Temperature: 15 °C
Solubility	Medium: Water Comments: Partly soluble
Partition coefficient: n-octanol/ water	Comments: Data lacking.
Auto-ignition temperature	Value: > 300 °C
Decomposition temperature	Comments: Data lacking.
Viscosity	Value: < 1 mm ² /s Temperature: 40 °C Type: Kinematic

9.2. Other information

Physical hazards

Oxidising liquids Assessment: Not oxidizing.

9.2.2. Other safety characteristics

Evaporation rate Data lacking.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity Under normal conditions and use there are not expected any reactivity hazards for this chemical.

10.2. Chemical stability

Stability Stable under normal temperature conditions and recommended use.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Arise in contact with incompatible materials (see section 10.5) and/or under inappropriate conditions (see section 10.4).
Reacts violently with strong oxidizing components.
May oxidise in the presence of air.
Can form explosive gas-air mixtures.

10.4. Conditions to avoid

Conditions to avoid Heat, sparks or open flame. Take precautionary measures against static discharge.

10.5. Incompatible materials

Materials to avoid Strong oxidizing agents.

10.6. Hazardous decomposition products

Hazardous decomposition products None under normal conditions. See also section 5.2.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Effect tested: LD50
Route of exposure: Oral
Value: > 2000 mg/kg
Species: Rat

Effect tested: LD50
Route of exposure: Dermal
Value: > 2000 mg/kg

Species: Rabbit
 Effect tested: LC50
 Route of exposure: Inhalation.
 Duration: 4 hour(s)
 Value: > 5 mg/l
 Species: Rat

Other information regarding health hazards

Assessment of acute toxicity, classification	Based on available data, the classification criteria are not met.
Assessment of skin corrosion / irritation, classification	Irritating to skin.
Assessment of eye damage or irritation, classification	Causes serious eye irritation.
Assessment of respiratory sensitisation, classification	Based on available data, the classification criteria are not met.
Assessment of skin sensitisation, classification	Based on available data, the classification criteria are not met.
Assessment of germ cell mutagenicity, classification	May cause genetic defects . Mutagenicity studies on gasoline and gasoline blending streams have shown predominantly negative result.
Assessment of carcinogenicity, classification	May cause cancer. Contains benzene (CAS 71-43-2), known human carcinogen. Benzene may cause leukaemia (AML - acute myelogenous leukemia).
Reproductive toxicity	Causes birth defects at doses which are maternally toxic. Many case studies involving abuse during pregnancy indicate that toluene can cause birth defects, growth retardation and learning disabilities (toluene). Ethanol, one of the material components, can cause birth defects and / or miscarriages at high oral doses.
Assessment of reproductive toxicity, classification	Suspected of damaging fertility or the unborn child.
Assessment of specific target organ toxicity - single exposure, classification	May cause drowsiness or dizziness. Classification: STOT SE 3: H336.
Assessment of specific target organ toxicity - repeated exposure, classification	Based on available data, the classification criteria are not met.
Assessment of aspiration hazard, classification	May be fatal if swallowed and enters airways.

Symptoms of exposure

In case of ingestion	Ingestion may cause the same symptoms as by inhalation. Symptoms such as coughing, breathing difficulties, vomiting or lethargy may indicate chemical pneumonitis.
In case of skin contact	The chemical irritates the skin and can cause itching, burning and redness. Absorption through the skin will give similar symptoms as for inhalation.

In case of inhalation	Solvent vapors may be harmful and overexposure may cause headaches, nausea, vomiting, and intoxication. Auditory system effects may include temporary hearing loss and/or ringing in the ears.
In case of eye contact	Irritation, burning, lachrymation, blurred vision after liquid splash.

11.2 Other information

Endocrine disruption	MTBE, CAS 1634-04-4 is listed on ECHA's Endocrine disruptor assessment list. Status "Concluded" outcome: inconclusive
Other information	The risk of cancer due to exposure length and extent.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity	<p>Toxic to aquatic life with long lasting effects.</p> <p>Acute toxicity to fish, aquatic invertebrates and algae: Expected to be toxic, LL/EL/IL50 1-10 mg/l</p> <p>Acute toxicity to micro organisms: Expected to be practically non-toxic, LL/EL/IL50 >100 mg/l</p> <p>Chronic toxicity to aquatic invertebrates: Expected NOEC/NOEL > 1,0 - ≤ 10 mg/l (based on test data)</p>
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12.2. Persistence and degradability

Persistence and degradability, comments	<p>The product is potentially degradable.</p> <p>Volatile solvents are rapidly oxidized by photochemical reaction in air.</p>
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12.3. Bioaccumulative potential

Bioaccumulative potential	Contains components which have bioaccumulative potential.
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12.4. Mobility in soil

Mobility	<p>Floats on water.</p> <p>May contaminate soil and groundwater.</p>
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12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	The mixture does not meet current criteria for PBT (Persistent, bioaccumulative and toxic) or vPvB (very persistent and very bioaccumulative).
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12.6. Endocrine disrupting properties

Endocrine disrupting properties	MTBE, CAS 1634-04-4 is listed on ECHA's Endocrine disruptor assessment list. Status "Concluded" outcome: inconclusive
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12.7. Other adverse effects

Additional ecological information	Forms an oil film on water surfaces that may harm organisms in the water and
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disrupt oxygen transport in the boundary layer between air and water.
Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Appropriate methods of disposal for the chemical	Do not allow runoff to sewer, waterway or ground. Recover and reclaim or recycle, if practical. Disposed of as hazardous waste by approved contractor. The waste code (EWC-Code) is intended as a guide. The code must be chosen by the user, if the use differs from the one mentioned below.
Appropriate methods of disposal for the contaminated packaging	Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Residues may cause an explosion hazard. Do not, puncture, cut, or weld uncleaned drums. Send to drum recoverer or metal reclaimer. Do not pollute the soil, water or environment with the waste container.
EWC waste code	EWC waste code: 130702 petrol Classified as hazardous waste: Yes EWC waste code: 130703 other fuels (including mixtures) Classified as hazardous waste: Yes

SECTION 14: Transport information

Dangerous goods Yes

14.1. UN number

ADR/RID/ADN	3475
IMDG	3475
ICAO/IATA	3475

14.2. UN proper shipping name

Proper shipping name English	ETHANOL AND GASOLINE MIXTURE
ADR/RID/ADN	ETHANOL AND GASOLINE MIXTURE
ADR/RID/ADN	ETHANOL AND GASOLINE MIXTURE
IMDG	ETHANOL AND GASOLINE MIXTURE
ICAO/IATA	ETHANOL AND GASOLINE MIXTURE

14.3. Transport hazard class(es)

ADR/RID/ADN	3
Classification code ADR/RID/ADN	F1
IMDG	3
ICAO/IATA	3

14.4. Packing group

ADR/RID/ADN	II
IMDG	II
ICAO/IATA	II

14.5. Environmental hazards

IMDG Marine pollutant	Yes
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14.6. Special precautions for user

Special safety precautions for user	Not allowed to be loaded with packages labeled with orange label, ie 1, 1.4, 1.5 and 1.6. Not allowed to be transported on passenger ships.
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14.7. Maritime transport in bulk according to IMO instruments**Additional information**

Hazard label ADR/RID/ADN	3
Hazard label IMDG	3
Hazard label ICAO/IATA	3
Additional information	MARPOL 73/78 Annex II applies to bulk transport by ship at sea.

ADR/RID Other information

Tunnel restriction code	D/E
Transport category	2
Hazard No.	33

IMDG Other information

EmS	F-E, S-E
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SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations / legislation specific for the substance or mixture**







References (laws/regulations)	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures (CLP-regulation) with later amendments. Regulation (EC) No 1907/2006 on the registration, evaluation, authorization and restriction of chemicals (REACH Regulation), with later amendments. European Waste Catalogue and Hazardous Waste List The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009. Control of Major Accident Hazards (COMAH) Regulations 2015
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15.2. Chemical safety assessment

Chemical safety assessment Chemical safety assessment has been performed for the following ingredients:
Gasoline (CAS 86290-81-5)

SECTION 16: Other information

Supplier's notes	<p>The information contained in this SDS must be made available to all those who handle the product.</p> <p>The information in this document should be brought to the attention of the person in your organisation responsible for advising on safety matters.</p>
List of relevant H-phrases (Section 2 and 3)	<p>H224 Extremely flammable liquid and vapour. H225 Highly flammable liquid and vapour. H226 Flammable liquid and vapour. H304 May be fatal if swallowed and enters airways. H315 Causes skin irritation. H318 Causes serious eye damage. H319 Causes serious eye irritation. H335 May cause respiratory irritation. H336 May cause drowsiness or dizziness. H340 May cause genetic defects H350 May cause cancer H350 May cause cancer . H361d Suspected of damaging the unborn child. H361fd Suspected of damaging fertility. Suspected of damaging the unborn child. H361f Suspected of damaging fertility. H361 Suspected of damaging fertility or the unborn child H372 Causes damage to organs through prolonged or repeated exposure H373 May cause damage to organs through prolonged or repeated exposure H411 Toxic to aquatic life with long lasting effects.</p>
Recommended restrictions on use	This product is intended for use in closed systems only.
Abbreviations and acronyms used	<p>ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road DNEL: Derived No Effect Level EWC: European Waste Code (a code from the EU's common classification system for waste) EL50: The effective concentration of substance (slightly soluble) that causes 50% of the maximum response. IATA: The International Air Transport Association ICAO: The International Civil Aviation Organisation IMDG: The International Maritime Dangerous Goods Code LC50: Median concentration lethal to 50% of a test population. LD50: Lethal dose: dose that kills 50% of exposed organisms. NOEL: No Observed Effect Level. The highest tested dose or exposure level at which, in a study, no statistically significant effect is observed in the exposed population compared with an appropriate control group. PNEC: Predicted No Effect Concentration RID: The Regulations concerning the International Carriage of Dangerous Goods by Rail</p>

Information added, deleted or revised	Sections being revised since previous version: 2.3, 8.2, 9.1, 11.2, 12.6, 12.7 Relevant changes compared to the previous version of the safety data sheet are indicated with verticle lines in the left margin.
Version	3
Prepared by	Kiwa Technical Consulting AB v/ Milvi Rohtla
Exposure scenario	 1. Use of gasoline as a fuel -Industrial .pdf  2. Use of gasoline as a fuel -Professional.pdf  3. Use of gasoline as a fuel - Consumer.pdf  4. Use of ethanol as a fuel - Industrial.pdf  5. Use of ethanol as a fuel - Professional.pdf  6. Use of ethanol as a fuel - Consumer.pdf