



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

1.1. Product identifier

Product name	Aspen
Synonyms	Aspen Sport - fuel for professionals in motorsports
Article no.	US
Extended SDS with ES incorporated	Yes
Extended SDS with ES incorporated, comments	Relevant information from component Exposure Scenarios has been incorporated into Sections 4 - 13 of this SDS.

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

Function	Description: Fuel
Use of the substance / preparation	Fuel for four-stroke engines.
Relevant identified uses	SU21 Consumer uses: Private households (= general public = consumers) SU22 Professional uses: publicly accessible (administration, education, entertainment, services, craftsmen) PC13 Fuels PROC16 Using material as fuel sources, limited exposure to unburned product to be expected. Industrial or non-industrial setting; AC03 Machinery and related mechanical appliances

1.3. Details of the supplier of the safety data sheet

Importer

Company name	Aspen USA Inc.
Postal address	410 N Michigan Ave, Suite 720
Postcode	60611
City	Chicago, IL
Country	USA
Telephone number	312-283-7347
Email	aspensds@lantmannen.com
Website	http://www.aspenfuels.us/

Manufacturer

Company name	Lantmännen Aspen AB
Postal address	Iberovägen 2

Postcode	SE-438 54
City	Hindås
Country	Sweden
Telephone number	+46 (0)301-23 00 00, (08:00-16.30 CET)
Email	aspensds@lantmannen.com
Website	http://www.aspenfuels.com/

1.4. Emergency telephone number

Emergency telephone	Telephone number: 1-800-424-9300 / +1 703-527-3887 Description: For emergencies only. Call CHEMTREC.
Identification, comments	In an emergency situation always contact 911 Emergency Services first.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to US OSHA HCS 2012 (29 CFR 1910.1200)	Flam. Liq. 1; H224 Asp. Tox. 1; H304 Skin Irrit. 2; H315 STOT SE 3; H336 Repr tox 2; H361f
Additional information on classification	The mixture is classified as dangerous according to CLP (EU), consistent with and adjusted to US OSHA HCS 2012 (29 CFR 1910.1200).
Additional classification, CLP (EU) / GHS	Acute Aq. Tox 1; H400 Chron Aq. Tox 1; H410

2.2. Label elements

Hazard pictograms (CLP)



Signal word	Danger
Hazard statements	H224 Extremely flammable liquid and vapour. H304 May be fatal if swallowed and enters airways. H315 Causes skin irritation. H336 May cause drowsiness or dizziness. H361f Suspected of damaging fertility.
Precautionary statements	P102 Keep out of reach of children.
- Prevention	P201 Obtain special instructions before use. P210 Keep away from heat / sparks / open flames / hot surfaces. – No smoking. P233 Keep container tightly closed. P240 Ground and bond container and receiving equipment. P241 Use explosion-proof [electrical / ventilating / lighting /] equipment. P242 Use non-sparking tools. P280 Wear protective gloves/eye protection/face protection. P271 Use only outdoors or in a well-ventilated area. P260 Do not breathe vapours.
- Response	P273 Avoid release to the environment. P303+P361+P353 IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water / shower.P332+ P313 If skin irritation occurs: Get medical advice/attention. 9

- Response	P301+P310 IF SWALLOWED: Immediately call a POISON CENTER / doctor / other health care professional. P331 Do NOT induce vomiting. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P312 Call a POISON CENTER / doctor / other health care professional if you feel unwell. P370+P378 In case of fire: Use water spray, foam, carbon dioxide (CO2), dry chemical to extinguish. P391 Collect spillage.
- Storage	P405 Store locked up. P403+P235 Store in a well-ventilated place. Keep cool.
- Disposal	P501 Dispose of contents / container to approved waste disposal site in an unsealed container.
Supplemental label information	See SDS for further information. Container is not intended for refill. Acc. C.2.4.6, appendix C to §1910.1200 precautionary statements may be combined or consolidated to save label space and improve readability.
Tactile warnings	Yes
Child-protection	Yes

2.3. Other hazards

Health effect	May cause nausea, headache, dizziness and poisoning. Narcosis in high concentrations. In high concentrations, vapours may irritate throat and respiratory system and cause coughing. Repeated exposure may cause skin dryness or cracking.
Other hazards	<p>Volatile. Vapours may form explosive mixtures with air. Risk of soil and ground water contamination.</p> <p>Vapours are heavier than air and may travel along the floor and in the bottom of containers. Vapours may be ignited by a spark, a hot surface or an ember.</p>

SECTION 3: Composition / information on ingredients

3.2. Mixtures

Substance	Identification	Classification	Contents	Notes
Alkylate	CAS No.: 68527-27-5	Flam. Liq. 1; H224 Asp. tox. 1; H304 Skin Irrit. 2; H315 STOT SE 3; H336 Aquatic Chronic 2; H413	40 - 50 %	
2,2,4-trimethylpentane	CAS No.: 540-84-1	Flam. Liq. 2; H225 Asp. Tox. 1, H304 Skin Irrit. 2, H315 STOT SE 3; H336 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	25 - 40 %	
Isomerate	CAS No.: 64741-70-4	Flam. Liq. 3; H226 Asp Tox 1; H304 Skin Irrit. 2, H315 STOT SE 3, H336 Repr. 2, H361f Aquatic Chronic 2, H411	1 - 10 %	
Ethanol	CAS No.: 64-17-5	Flam. Liq. 2; H225	1 - 10 %	
Hydrocarbons, C7-C9, isoalkanes	CAS No.: 64741-66-8	Flam. Liq. 2; H225 Asp Tox 1; H304 Skin Irrit. 2, H315 STOT SE 3, H336 Aquatic Chronic 2, H411	1 - 10 %	

Description of the mixture	<p>Contains as contamination: n-hexane, CAS No 110-54-3 <1%, benzene, CAS No 71-43-2 < 0,1%, toluene CAS No 108-88-3 <1%, ethylbenzene, CAS No 100-41-4 <0,1%, xylene, CAS No 1330-20-7 <1%.</p> <p>Normally the levels of benzene, toluene, ethylbenzene and xylene, respectively, are below <0.1% v / v.</p> <p>Any concentration shown as a range is due to batch variation acc. to Table D.1, appendix D, §1910.1200.</p> <p>Within the current knowledge of the supplier - the mixture contains no additional ingredients which, with reference to concentrations and classifications, needs to be listed in this section.</p>
Remarks, substance	

SECTION 4: First aid measures

4.1. Description of first aid measures

General	<p>Fire and explosion: Leave the zone of danger immediately and evacuate unnecessary personnel. Bring injured persons out of the zone of danger immediately. Beware of danger of shock in seemingly not-injured persons.</p> <p>IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.</p> <p>The product may produce a serious, potentially fatal pneumonia if swallowed or vomited.</p>
Inhalation	<p>If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.</p>
Skin contact	<p>Remove contaminated clothing immediately and wash skin with soap and water.</p> <p>If skin irritation occurs: Get medical advice/attention.</p>
Eye contact	<p>Immediately rinse with water for several minutes. Make sure to remove any contact lenses from the eyes before rinsing. If eye irritation persists: Get medical advice/attention.</p>
Ingestion	<p>Rinse mouth. DO NOT induce vomiting. Get medical attention immediately. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.</p>

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

General symptoms and effects	<p>In high concentrations, vapours and aerosol mists have a narcotic effect and may cause headache, fatigue, dizziness and nausea.</p>
Acute symptoms and effects	<p>May be fatal if swallowed and enters airway. Entry into the lung following ingestion or vomiting may cause chemical pneumonitis. Skin irritating.</p>
Delayed symptoms and effects	<p>Repeated exposure may cause skin dryness or cracking. Suspected of damaging fertility.</p>

4.3. Indication of any immediate medical attention and special treatment needed

Medical treatment	<p>Treat symptomatically.</p> <p>Stomach pumping only after endotracheal intubation.</p>
Medical monitoring for delayed effects	<p>Central nervous system depression including narcotic effects such as drowsiness, narcosis, reduced alertness, loss of reflexes, lack of coordination and vertigo.</p>

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Extinguish with foam, carbon dioxide, dry powder or water fog.
Improper extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Fire and explosion hazards	Extremely flammable liquid and vapour. Vapours may form explosive air mixtures even at room temperature. If heated, volume and pressure increases strongly, resulting in explosion of container. Vapours are heavier than air and may spread near ground to sources of ignition.
Hazardous combustion products	May form carbon monoxide from incomplete combustion.

5.3. Advice for firefighters

Personal protective equipment	In case of inadequate ventilation wear respiratory protection. Use personal protective equipment as required.
Fire fighting procedures	Containers close to fire should be removed immediately or cooled with water. Avoid water in straight hose stream; will scatter and spread fire. Be aware of risk of fire re-starting, and risk of explosion.
Special protective equipment for firefighters	In case of a large fire or in restricted or poorly ventilated areas, wear comprehensive fire resistant protective clothing and SCBA breathing apparatus with full mask and positive air pressure.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal protection measures	Do not smoke or use open fire, or other sources of ignition. Ventilate well. In case of inadequate ventilation use suitable respirator. Take precautionary measures against static discharges.
For emergency responders	Eliminate all ignition sources if safe to do so. Also see section 5.

6.2. Environmental precautions

Environmental precautionary measures	Avoid discharge into drains, water courses or onto the ground. Contain spillages with sand, earth or any suitable absorbent material. Contact local authorities in case of spillage to drain/aquatic environment.
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6.3. Methods and material for containment and cleaning up

Containment	Absorb spillage with non-combustible, absorbent material. Remove sources of ignition. Beware of the explosion danger. Cover large spillages with foam.
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6.4. Reference to other sections

Other instructions	Section 8: Personal protection. Section 13: Disposal considerations.
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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Handling	Flammable/combustible - Keep away from oxidisers, heat and flames. Take precautionary measures against static discharges. Provide good ventilation. Do not use in confined spaces without adequate ventilation and/or respirator.
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Protective safety measures

Safety measures to prevent fire	Keep cool. Keep away from heat / sparks / open flames / hot surfaces. — No smoking. Protect from sunlight.
Preventitive measures to protect the environment	Avoid discharge into drains, water courses or onto the ground.
Advice on general occupational hygiene	Good personal hygiene is necessary. Wash hands and contaminated areas with water and soap before leaving the work site. Avoid eating, drinking and smoking when using the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage	Store in tightly closed original container in a well-ventilated place. Flammable liquid storage. Store at maximum temperature of 30°C / 86°F, do not expose to temperatures exceeding 50 °C/122 °F.
Conditions to avoid	Keep away from heat, sparks and open flame. Flammable/combustible - Keep away from oxidisers, heat and flames.

Conditions for safe storage

Technical measures and storage conditions	Use only non-sparking tools.
Requirements for storage rooms and vessels	Large amounts and storages should be stored in accordance with national regulation on storage of flammable liquids. Ground / bond container and receiving equipment.
Advice on storage compatability	Keep flammable liquids away from flammable gas and highly flammable goods. US/Canada: Flammable Class IB liquid.

7.3. Specific end use(s)

Specific use(s)	The identified uses for this product are detailed in Section 1.2.
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SECTION 8: Exposure controls / personal protection

8.1. Control parameters

Substance	Identification	Exposure limits	TWA Year
Alkylate	CAS No.: 68527-27-5	Country of origin: US Limit value (8 h) : 500 ppm Limit value (8 h) : 2350 mg/m ³ Source: OSHA PEL. OSHA Occupational Chemical Database Comments: As Octane. Country of origin: US Limit value (8 h) : 100 ppm	

		<p>Limit value (8 h) : 350 mg/m³</p> <p>Exposure limit letter</p> <p>Letter code: REL-C; 385 ppm (1800 mg/m³) [15 minutes] .</p> <p>Source: NIOSH REL OSHA Occupational Chemical Database</p> <p>Comments: As Octane.</p> <p>Country of origin: US</p> <p>Limit value (8 h) : 300 ppm</p> <p>Source: ACGIH TLV®-TWA OSHA Occupational Chemical Database Comments: As Octane.</p>
2,2,4-trimethylpentane	CAS No.: 540-84-1	<p>Country of origin: US</p> <p>No Limit value exist.</p>
Isomerate	CAS No.: 64741-70-4	<p>Country of origin: US</p> <p>Limit value (8 h) : 100 ppm</p> <p>Limit value (8 h) : 350 mg/m³</p> <p>Exposure limit letter</p> <p>Letter code: REL-C; 510 ppm / 1800 mg/m³ [15 minutes]</p> <p>Source: NIOSH REL OSHA Occupational Chemical Database</p> <p>Comments: As Hexane (all isomers except n-hexane)</p> <p>Country of origin: US</p> <p>Limit value (8 h) : 500 ppm</p> <p>Limit value (short term)</p> <p>Value: 1000 ppm</p> <p>Limit value (short term)</p> <p>Appraisal period: 15 min</p> <p>Source: ACGIH TLV®-TWA OSHA Occupational Chemical Database Comments: As Hexane (all isomers except n- hexane)</p>
Ethanol	CAS No.: 64-17-5	<p>Country of origin: US</p> <p>Limit value (8 h) : .. 00 ppm</p> <p>Limit value (8 h) : 1900 mg/m³</p> <p>Source: NIOSH REL OSHA Occupational Chemical Database</p> <p>Country of origin: US</p> <p>Limit value (8 h) : 1000 ppm</p> <p>Source: ACGIH TLV®-TWA OSHA Occupational Chemical Database</p>
Hydrocarbons, C7-C9, isoalkanes	CAS No.: 64741-66-8	<p>Country of origin: US</p> <p>No Limit value exist.</p>
n-Hexane	CAS No.: 110-54-3	<p>Country of origin: US</p> <p>Limit value (8 h) : 500 ppm</p> <p>Limit value (8 h) : 1800 mg/m³</p> <p>Source: OSHA PEL. OSHA Occupational Chemical Database</p>

		<p>Country of origin: US Limit value (8 h) : 50 ppm Limit value (8 h) : 180 mg/m³ Source: NIOSH REL OSHA Occupational Chemical Database Country of origin: US Limit value (8 h) : 50 ppm Source: ACGIH TLV®-TWA OSHA Occupational Chemical Database</p>
Benzene	CAS No.: 71-43-2	<p>Country of origin: US Limit value (8 h) : 1 ppm Limit value (short term) Value: 5 ppm Limit value (short term) Appraisal period: 15 min Exposure limit letter Letter code: OSHA-Ca Source: OSHA PEL. OSHA Occupational Chemical Database Country of origin: US Limit value (8 h) : 0,1 ppm Limit value (short term) Value: 1 ppm Limit value (short term) Appraisal period: 15 min Exposure limit letter Letter code: NIOSH-Ca Source: NIOSH REL OSHA Occupational Chemical Database Country of origin: US Limit value (8 h) : 0,5 ppm Limit value (short term) Value: 2,5 ppm Exposure limit letter Letter code: Skin TLV-A1 BEIÂ® Source: ACGIH TLVÂ®-TWA OSHA Occupational Chemical Database</p>
Toluene	CAS No.: 108-88-3	<p>Country of origin: US Limit value (8 h) : 200 ppm Exposure limit letter Letter code: PEL-C; 300 ppm (500 ppm peak) [10 min maximum in an 8 hr shift] . Source: OSHA PEL. OSHA Occupational Chemical Database Country of origin: US Limit value (8 h) : 100 ppm Limit value (8 h) : 350 mg/m³ Limit value (short term) Value: 150 ppm</p>

<p>Toluene</p>	<p>CAS No.: 108-88-3</p>	<p>Limit value (short term) Value: 560 mg/m³ Limit value (short term) Appraisal period: 15 min Source: NIOSH REL OSHA Occupational Chemical Database Country of origin: US Limit value (8 h) : 20 ppm Limit value (short term) Value: 560 mg/m³ Limit value (short term) Appraisal period: 15 min Source: NIOSH REL OSHA Occupational Chemical Database Country of origin: US Limit value (8 h) : 20 ppm Exposure limit letter Letter code: BEI® Source: ACGIH TLV®-TWA OSHA Occupational Chemical Database</p>
<p>Ethyl benzene</p>	<p>CAS No.: 100-41-4</p>	<p>Country of origin: US Limit value type: TWA Limit value (8 h) : 100 ppm Limit value (8 h) : 435 mg/m³ Source: OSHA PEL. OSHA Occupational Chemical Database Country of origin: US Limit value type: TWA Limit value (8 h) : 100 ppm Limit value (8 h) : 435 mg/m³ Limit value (short term) Value: 125 ppm Limit value (short term) Value: 545 mg/m³ Limit value (short term) Appraisal period: 15 min Source: NIOSH REL OSHA Occupational Chemical Database Country of origin: US Limit value type: TWA Limit value (8 h) : 20 ppm Source: ACGIH TLV®-TWA OSHA Occupational Chemical Database</p>
<p>Xylene</p>	<p>CAS No.: 1330-20-7</p>	<p>Country of origin: US Limit value type: TWA Limit value (8 h) : 100 ppm Limit value (8 h) : 435 mg/m³ Source: NIOSH REL OSHA Occupational Chemical Database</p>

Country of origin: US
 Limit value type: TWA
 Limit value (8 h) : 100 ppm
 Limit value (8 h) : 435 mg/m³
 Limit value (short term)
 Value: 150 ppm
 Limit value (short term)
 Value: 655 mg/m³
 Limit value (short term)
 Appraisal period: 15 min
 Source: OSHA PEL. OSHA
 Occupational Chemical
 Database
 Country of origin: US
 Limit value type: TWA
 Limit value (8 h) : 100 ppm
 Limit value (short term)
 Value: 150 ppm
 Source: ACGIH TLV®-TWA
 OSHA
 Occupational Chemical
 Database

8.2. Exposure controls

Safety signs



Precautionary measures to prevent exposure

Appropriate engineering controls

Do not handle near food and drink.
 Provide access to washing facilities incl. soap, skin cleanser and fatty cream.
 Observe occupational exposure limits and minimise the risk of inhalation of vapours and mist.

Technical measures to prevent exposure

Provide adequate general and local exhaust ventilation. Provide eyewash station and safety shower.

Eye / face protection

Additional eye protection measures

Contact lenses should not be worn when working with this chemical!

Eye protection, comments

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

Hand protection

Suitable materials

Nitrile.

Required properties for hand protection

Fulfil the requirements in 29 CFR 1910.138 (OSHA).
 ANSI/ISEA 105-2016.

Breakthrough time

Value: 8 hour(s)
 Comments: Level 6.

Hand protection, comments	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. The choice of most suitable gloves for a specific workplace should be discussed with the producers of the protective gloves. Be aware that the liquid may penetrate the gloves. Frequent change is advisable.
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Skin protection

Suitable protective clothing	Wear apron or protective clothing in case of splashes.
Additional skin protection measures	Provide eyewash station and safety shower.
Skin protection remark	Contaminated clothing is a risk for fire and/or explosion. Wash contaminated clothing before reuse.

Respiratory protection

Respiratory protection necessary at	Respiratory protection must be used if air contamination exceeds acceptable level.
Recommended respiratory protection	Equipment for self-rescue: Respirator acc. to 29 CFR 1910.134. Mask type: Respirator according to respiratory protection program, 29 CFR 1910. Description: Shall precedes of a training program before use acc. to OSHA. Reference to relevant standard: ANSI/AIHA Z88.2 Equipment for self-rescue: Respirator according to EN 140. Mask type: Use respiratory equipment with combination filter, type AX/P2. Description: Filters can only be used 2 hours at a time, and cannot be used if oxygen levels drop below 19 vol%.
Additional respiratory protection measures	All handling to take place in well-ventilated area.
Respiratory protection, comments	Under normal conditions of use respiration protection should not be required.

Thermal hazards

Thermal hazards	No recommendation given.
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Hygiene / environmental

Personal protection equipment, comments	Change work clothing daily if there is any possibility of contamination.
Specific hygiene measures	Promptly remove non-impervious clothing that becomes wet. DO NOT SMOKE IN WORK AREA!

Appropriate environmental exposure control

Product related measures to prevent exposure	Prevent spillage entering a watercourse or sewer, contaminating soil or vegetation. If this is not possible notify police and appropriate authorities immediately.
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Exposure controls

Safety measures for consumer use of the chemical	This product is not to be used under conditions of poor ventilation. Remove contaminated clothing and wash the skin thoroughly with soap and water after work. Good personal hygiene is necessary. Wash hands and contaminated areas with water and soap before leaving the work site. Do not store tobacco, food or beverage in work rooms or areas where the product is used.
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Skin protection remark	Contaminated clothing is a risk for fire and/or explosion. Wash contaminated clothing before reuse.
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Respiratory protection

Respiratory protection necessary at	Respiratory protection must be used if air contamination exceeds acceptable level.
Recommended respiratory protection	<p>Equipment for self-rescue: Respirator acc. to 29 CFR 1910.134. Mask type: Respirator according to respiratory protection program, 29 CFR 1910.134. Description: Shall precedes of a training program before use acc. to OSHA. Reference to relevant standard: ANSI/AIHA Z88.2</p> <p>Equipment for self-rescue: Respirator according to EN 140. Mask type: Use respiratory equipment with combination filter, type AX/P2. Description: Filters can only be used 2 hours at a time, and cannot be used if oxygen levels drop below 19 vol%.</p>
Additional respiratory protection measures	All handling to take place in well-ventilated area.
Respiratory protection, comments	Under normal conditions of use respiration protection should not be required.

Thermal hazards

Thermal hazards	No recommendation given.
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Hygiene / environmental

Personal protection equipment, comments	Change work clothing daily if there is any possibility of contamination.
Specific hygiene measures	Promptly remove non-impervious clothing that becomes wet. DO NOT SMOKE IN WORK AREA!

Appropriate environmental exposure control

Product related measures to prevent exposure	Prevent spillage entering a watercourse or sewer, contaminating soil or vegetation. If this is not possible notify police and appropriate authorities immediately.
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Exposure controls

Safety measures for consumer use of the chemical	<p>This product is not to be used under conditions of poor ventilation. Remove contaminated clothing and wash the skin thoroughly with soap and water after work. Good personal hygiene is necessary. Wash hands and contaminated areas with water and soap before leaving the work site. Do not store tobacco, food or beverage in work rooms or areas where the product is used.</p>
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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Clear liquid
Colour	Light yellow
Odour	Gasoline

pH	No data available
Boiling point / boiling range	Value: 77 -338 °F
Flash point	Value: - 40 °F
Evaporation rate	No data available
Lower explosion limit with unit of measurement	No data available
Upper explosion limit with units of measurement	No data available
Vapour pressure	44 – 48 kPa @ 100°F
Vapour density	No data available
Density	Value: 700 - 720 kg/m ³
Solubility	No data available
Partition coefficient: n-octanol/ water	No data available
Auto-ignition temperature	No data available
Viscosity	No data available

9.2. Other information

Physical hazards

Conductivity	No data available
Gas group	Comments: IIA.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	Not reactive under normal use and storage conditions.
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10.2. Chemical stability

Stability	Stable under normal temperature conditions and recommended use.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Under normal condition of storage and use, no hazardous reactions will occur. Contains a volatile component. Vapours may form explosive mixtures with air.
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10.4. Conditions to avoid

Conditions to avoid	Keep away from heat / sparks / open flames / hot surfaces. — No smoking. Avoid exposure to high temperatures or direct sunlight. Take precautionary measures against static discharge.
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10.5. Incompatible materials

Materials to avoid	Strong oxidising substances.
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10.6. Hazardous decomposition products

Hazardous decomposition products	None under normal conditions. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.
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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Substance	Alkylate
Acute toxicity	<p>Type of toxicity: Acute Effect tested: LD50 Route of exposure: Oral Method: OECD 401 Value: > 5000 mg/kg Animal test species: Rat Comments: 68527-27-5</p> <p>Type of toxicity: Acute Effect tested: LC50 Route of exposure: Inhalation. Method: OECD 403 Value: > 5610 mg/m³ Animal test species: Rat Comments: 68527-27-5</p> <p>Effect tested: LD50 Route of exposure: Dermal Method: OECD 402 Value: > 2000 mg/kg bw Animal test species: Rabbit Comments: 68527-27-5</p>
Substance	2,2,4-trimethylpentane
	<p>Effect tested: LD50 Route of exposure: Oral Value: > 5000 mg/kg Animal test species: Rat Comments: -</p>

Substance	Isomerate
Acute toxicity	<p>Effect tested: LD50 Route of exposure: Oral Method: OECD 401 Value: > 5000 mg/kg Animal test species: Rat</p> <p>Effect tested: LD50 Route of exposure: Dermal Method: OECD 402 Value: > 5000 mg/kg Animal test species: Rabbit</p> <p>Effect tested: LC50 Route of exposure: Inhalation. Method: OECD TG 403 Value: > 5610 mg/m³ Animal test species: Rat</p>
Substance	Ethanol
Acute toxicity	<p>Effect tested: LD50 Route of exposure: Oral Method: - Value: 10 470 mg/kg Animal test species: Rat</p> <p>Effect tested: LD50 Route of exposure: Dermal Method: - Value: >2 000 mg/kg Animal test species: Rat</p> <p>Effect tested: LC50 Route of exposure: Inhalation. Method: Read-across: Value: > 21 mg/l Animal test species: Rat</p>
Substance	Hydrocarbons, C7-C9, isoalkanes
Acute toxicity	<p>Effect tested: LD50 Route of exposure: Oral Method: Read-across Value: > 5000 mg/kg Animal test species: Rat</p> <p>Effect tested: LD50 Route of exposure: Dermal Method: Read-across Value: > 2000 mg/kg Animal test species: Rat</p>

	Effect tested: LC50 Route of exposure: Inhalation. Method: Read-across: Value: > 21 mg/l Animal test species: Rat
Acute toxicity	Not classified

Other information regarding health hazards

Substance	Alkylate
Skin corrosion / irritation test result	Toxicity type: Skin corrosion Method: OECD 404 Evaluation result: Prolonged contact may cause redness, irritation and cracking. 64741-64-6 Comments: Irritating to respiratory system. The product causes irritation of mucous membranes and may cause abdominal discomfort if swallowed. 68527-27-5
Skin corrosion / irritation, other information	Liquid irritates mucous membranes and may cause abdominal pain if swallowed. Gas or vapour may irritate respiratory system.
Assessment of skin corrosion / irritation, classification	Irritating to skin.
Respiratory or skin sensitisation	Comments: Based on available data the classification criteria are not met.
General	Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.
Inhalation	In high concentrations, vapours are narcotic and may cause headache, fatigue, dizziness and nausea. May cause irritation to the respiratory system.
Skin contact	Prolonged or repeated contact leads to drying of skin. Acts as a defatting agent on skin. May cause cracking of skin, and eczema.
Eye contact	May cause minor irritation on eye contact.
Ingestion	May be fatal if swallowed and enters airway. Entry into the lung following ingestion or vomiting may cause chemical pneumonitis.
Sensitisation	None.
Germ cell mutagenicity	Comments: The product does not need to be classified as Carcinogen, Mutagen or Reproductions toxic (CMR) due to low concentrations of components suspected or known to be CMR.
Carcinogenicity	Comments: The product does not need to be classified as Carcinogen, Mutagen or Reproductions toxic (CMR) due to low concentrations of components suspected or known to be CMR.
Reproductive toxicity	Comments: Classified as Suspected of damaging fertility (H361f).
Assessment of specific target organ toxicity - single exposure, classification	May cause drowsiness or dizziness. Central nervous system depression including narcotic effects such as drowsiness, narcosis, reduced alertness, loss of reflexes, lack of coordination and vertigo.
Assessment of specific target organ toxicity - repeated exposure, classification	Based on available data the classification criteria are not met.
Assessment of aspiration hazard, classification	H304 May be fatal if swallowed and enters airways.

Aspiration hazard, comments	Risk of chemical pneumonia after aspiration. Ingestion may cause severe irritation of the mouth, the oesophagus and the gastrointestinal tract.
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Symptoms of exposure

In case of ingestion	Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.
In case of skin contact	Acts as a defatting agent on skin. May cause cracking of skin, and eczema.
In case of inhalation	Mild intoxication (incl. fatigue, lassitude, irritability, headache, nausea). Central nervous system depression.
Other information	In case of overexposure, organic solvents may depress the central nervous system causing dizziness and intoxication, and at very high concentrations unconsciousness and death.

SECTION 12: Ecological information

12.1. Toxicity

Substance	Alkyate
Aquatic toxicity, fish	Value: 18,4 mg/l Exposure time: 96 hour(s) Species: Phimepales promelas Method: OECD 203 / EPA 66013-75-009 Comments: LL50, Read-across.
Substance	2,2,4-trimethylpentane
Aquatic toxicity, fish	Value: 18,4 mg/l Exposure time: 96 hour(s) Species: Oncorhynchus mykiss Method: OECD 203 Comments: LL50, Read-across. Value: 0,82 mg/l Effect dose concentration : NOELR Test duration: 28 day(s) Species: -
Substance	Isomerate
Aquatic toxicity, fish	Value: 8,2 mg/l Exposure time: 96 hour(s) Species: Oncorhynchus mykiss Method: - Comments: LC50.
Substance	Alkyate
Aquatic toxicity, algae	Value: 3,1 mg/l Exposure time: 72 hour(s) Species: Pseudokirchneriella subcapitata Method: OECD 201 Comments: Gasoline

SECTION 12: Ecological information

12.1. Toxicity

Substance	Alkyate
Aquatic toxicity, algae	<p>Value: 0,5 mg/l Exposure time: 72 hour(s) Species: Pseudokirchneriella subcapitata Method: OECD 201 Comments: Rread-across.</p>
Substance	2,2,4-trimethylpentane
Aquatic toxicity, algae	<p>Value: 2,943 mg/l Exposure time: 72 hour(s) Species: - Method: - Comments: EL50, based on biomass</p> <p>Value: 0,658 mg/l Exposure time: 72 hour(s) Species: - Method: - Comments: NOELR, based on biomass</p>
Substance	Isomerate
Aquatic toxicity, algae	<p>Value: 3,1 mg/l Exposure time: 72 hour(s) Species: Pseudokirchneriella subcapitata Method: OECD 201 Comments: Gasoline</p> <p>Value: 0,5 mg/l Exposure time: 72 hour(s) Species: Pseudokirchneriella subcapitata Method: OECD 201 Comments: Rread-across.</p>
Substance	Alkylate
Aquatic toxicity, crustacean	<p>Value: 4,5 mg/l Exposure time: 48 hour(s) Species: Daphnia magna Method: OECD 202 Comments: Read-across.</p> <p>Value: 2,6 mg/l Effect dose concentration : NOELR Test duration: 21 day(s) Species: Daphnia magna Comments: Read-across.</p>
Substance	2,2,4-trimethylpentane
Aquatic toxicity, crustacean	<p>Value: 2,4 mg/l Exposure time: 48 hour(s) Species: Daphnia magna Method: - Comments: Read-across.</p>

Substance	2,2,4-trimethylpentane
Aquatic toxicity, crustacean	Value: 2,4 mg/l Effect dose concentration : NOELR Test duration: 21 day(s) Species: - Comments: Read-across.
Substance	Isomerate
Aquatic toxicity, crustacean	Value: 4,5 mg/l Exposure time: 48 hour(s) Species: Daphnia magna Method: OECD 202 Comments: Read-across. Value: 2,6 mg/l Effect dose concentration : NOELR Test duration: 21 day(s) Species: Daphnia magna Comments: Read-across.

12.2. Persistence and degradability

Persistence and degradability description/evaluation	Volatile substances are degraded in the atmosphere within a few days. The product is degraded completely by photochemical oxidation. The product has not proven to be degradable under anaerobic conditions.
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12.3. Bioaccumulative potential

Bioconcentration factor (BCF)	Value: 4,3 -4,8 Method: Log Kow Comments: Calculated value for mixture.
Bioaccumulation, comments	Log Kow 4.3 -4.8. Calculated value for mixture. Possibly bioaccumulative, based on the data on the ingredients.

12.4. Mobility in soil

Mobility	The product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces. The product is insoluble in water and will spread on the water surface.
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12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	This product does not contain any PBT or vPvB substances.
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12.6. Other adverse effects

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Appropriate methods of disposal for the contaminated packaging	Make sure containers are empty before discarding (explosion risk). Vent to atmosphere. Dispose of contents/container to licensed disposal company. Avoid release to the environment.
EWC waste code	EWC waste code: 130702 petrol Classified as hazardous waste: Yes

EWL packing	EWC waste code: 150110 packaging containing residues of or contaminated by dangerous substances Classified as hazardous waste: Yes
EU Regulations	2008/98/EG
National regulations	Resource Conservation and Recovery Act (RCRA)
National waste group	Depending on hazardous properties and use the waste shall be indentified acc. to 40 CFR part 261.
Other information	The packaging must be empty (drop-free, when inverted).

SECTION 14: Transport information

Dangerous goods	Yes
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14.1. UN number

ADR/RID/ADN	1203
IMDG	1203
ICAO/IATA	1203
Comments	ERG Code: 128 (DOT/US and TC/Canada)

14.2. UN proper shipping name

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

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

ADR/RID/ADN	Yes.
IMDG	Yes.
ICAO/IATA	Yes.

14.6. Special precautions for user

Special safety precautions for user	See other information.
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14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Transport in bulk (yes/no)	No
Pollution category	Not applicable.

Additional information

Hazard label ADR/RID/ADN	3
Hazard label IMDG	3
Hazard label ICAO/IATA	3

ADR/RID Other information

Tunnel restriction code	D/E
Transport category	2
Hazard No.	33
Other applicable information ADR/RID	In compliance with 49 CFR.

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

National regulations	<p>TSCA: This product and/or its components are listed.</p> <p>SARA 302/304: No components were identified.</p> <p>SARA 311/312: Immediate (acute) health hazard; yes, delayed (chronic) health hazard; yes. fire hazard; yes. Facilities handling 10 000 pounds or more needs to fulfil the demands.</p> <p>SARA 313: No components at or above the "di minimis".</p> <p>CERCLA: Does not contain any components with a CERCLA RQ other than as contaminations in very small amounts (n-hexane <1%, benzene <0,1%, toluene <1%), ethylbenzene <0,1%, xylene <1%)</p> <p>The Clean Air Act (CAA) Section 112 (r) Accidental Release Prevention (40 CFR 68.130): Butane (CAS 106-97-8), Isopentane (CAS 78-78-4)</p> <p>The Clean Air Act (CAA) List of Hazardous Air Pollutants (HAP's): As contaminations in very small amounts ((n-hexane <1%, benzene <0,1%, toluene <1%), ethylbenzene <0,1%, xylene <1%)</p> <p>California Proposition 65: Contains components known to the state of California to cause cancer, birth defects or other reproductive harm. As contaminations in very small amounts (n-hexane <1%, benzene <0,1%, toluene <1%), ethylbenzene <0,1%).</p>
Biocides	No
Nanomaterial	No

References (laws/regulations)	US OSHA HCS 2012 (29 CFR 1910.1200). Resource Conservation and Recovery Act, RCRA (40 CFR 239-282). Transportation of dangerous goods (49 CFR, Subchapter C) UN Globally Harmonized System of Classification and Labeling of Chemicals (GHS). Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 with amendments.
Legislation and regulations	The Safety Data Sheet conforms to U.S OSHA HCS 2012, (29 CFR 1910.1200) and Canadian WHMIS 2015, Hazardous Products Regulations (HPR).

15.2. Chemical safety assessment

Chemical safety assessment performed	Yes
Exposure scenario comments	Relevant information from exposure scenarios and chemical safety determinations for the individual components has been incorporated into Sections 4 - 13.

SECTION 16: Other information

Supplier's notes	The information on this data sheet represents our current data and is reliable provided that the product is used under the prescribed conditions and in accordance with the application specified on the packaging and/or in the technical guidance literature. Any other use of the product which involves using the product in combination with any other product or any other process is the responsibility of the user.
Key literature references and sources for data	Examination essay. Diffusion of alkylate petrol during discharge in the environment. Gunilla Henriksson, Annalena Tåmt (2004). Kemiska Ämnen. Prevent AB (2013). Test report 022/11. Aspen+. Fish, acute toxicity test. Toxicon AB (2011). Test report 022/11. Aspen+. Freshwater Alga and Cyanobacteria, Growth Inhibition Test. Daphnia Magna, Acute Immobilisation Test. Fish, acute toxicity test. Toxicon AB (2011). Test report 07-25. Evaluation of the aerobic biodegradability of organic compounds 182/06 (Aspen 4T). AnoxKaldnes AB (2007).
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