

SAFETY DATA SHEET



MOTOR GASOLINE (ADDITIZED)

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

1.1 Product identifier

Product name : MOTOR GASOLINE (ADDITIZED)
UFI : 0J3P-N2CM-100N-W60U
Product description : Hydrocarbons and Additives
Other means of identification : 1:50; 91 OCT UNL MOGAS; 95 OCT UNL MOGAS; 98 OCT UNL MOGAS; BENZIN BLEIFREI; BENZIN MIT ADDITIV; ESSO 2-T-MIX; ESSO 2-TAKT GEMISCH; ESSO BENZIN 100% ADDITIVIERT; ESSO BENZIN 50% ADDITIVIERT; ESSO SUPER BENZIN 100% ADDITIVIERT; ESSO SUPER BENZIN 50% ADDITIVIERT; ESSO SUPER BENZIN PROTECTION GRADE 100% ADDITIVE; ESSO SUPER E0 BENZIN 100% ADDITIVIERT; ESSO SUPER E10; ESSO SUPER E10 BENZIN 100% ADDITIVIERT; ESSO SUPER PLUS BENZIN 100% ADDITIVIERT; ESSO SUPER PLUS BENZIN 50% ADDITIVIERT; MGBLEND; OTTOKRAFTSTOFF ADDITIVIERT; SUPER BENZIN E5 ADDITIVIERT; SUPER BLEIFREI; SUPER MIT ADDITIV; SUPER PLUS BLEIFREI; SUPER PLUS MIT ADDITIV; ULS MOGAS 95 RON; ULS MOGAS 98 RON; UNLEADED MOGAS 91 RON; UNLEADED MOGAS 95 RON; UNLEADED MOGAS 98 RON

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

Intended Use : Petrol

Identified uses
Manufacture of substance
Distribution of substance
Formulation and (re)packing of substances and mixtures
Use as a fuel - Industrial
Use as a fuel - Professional
Use as a fuel - Consumer

1.3 Details of the supplier of the safety data sheet

Supplier : ESSO Deutschland GmbH
Caffamacherreihe 5
D-20355 Hamburg
Deutschland
Supplier General Contact : +49 40 63 93 0
e-mail address of person responsible for this SDS : SDS-DS@exxonmobil.com
SDS Internet Address : www.sds.exxonmobil.com

1.4 Emergency telephone number

National advisory body/ Poison Centre : 030-30686 700 (Giftnotruf Berlin)
24 Hour Emergency Telephone : 0800 1817059 (Toll Free) / +44 20 3885 0382 / +1-703-527-3887 (CHEMTREC)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Flam. Liq. 1, H224

Skin Irrit. 2, H315

Eye Irrit. 2, H319

Muta. 1B, H340

Carc. 1B, H350

Repr. 2, H361fd

STOT SE 3, H336

Asp. Tox. 1, H304

Aquatic Chronic 2, H411

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :



Signal word : Danger

Hazard statements :

- H224 - Extremely 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.
- H361fd - Suspected of damaging fertility. Suspected of damaging the unborn child.
- H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements

General :

- P101 - If medical advice is needed, have product container or label at hand.
- P102 - Keep out of reach of children.

Prevention :

- P202 - Do not handle until all safety precautions have been read and understood.
- P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P240 - Ground and bond container and receiving equipment.
- P241 - Use explosion-proof electrical, ventilating or lighting equipment.
- P242 - Use non-sparking tools.
- P243 - Take action to prevent static discharges.
- P261 - Avoid breathing vapour.
- P264 - Wash thoroughly after handling.
- P271 - Use only outdoors or in a well-ventilated area.
- P273 - Avoid release to the environment.
- P280 - Wear protective gloves, protective clothing, eye protection, face protection, or hearing protection.

Response :

- P301 + P331, P310 - IF SWALLOWED: Do NOT induce vomiting. Immediately call a POISON CENTER or doctor.
- P302 + P352 - IF ON SKIN: Wash with plenty of water.
- P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
- P304 + P312, P340 - IF INHALED: Call a POISON CENTER or doctor if you feel unwell. Remove person to fresh air and keep comfortable for breathing.
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P308 + P313 - IF exposed or concerned: Get medical advice or attention.

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SECTION 2: Hazards identification

P332 + P313 - If skin irritation occurs: Get medical advice/attention.
 P337 + P313 - If eye irritation persists: Get medical advice/attention.
 P362 + P364 - Take off contaminated clothing and wash it before reuse.
 P370 + P378 - In case of fire: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.
 P391 - Collect spillage.

- Storage** : P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
 P403 + P235 - Keep cool.
 P405 - Store locked up.
- Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Contains** : gasoline and ethyl tert-butyl ether
- Supplemental label elements** : Not applicable.
- Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : 48, 69, 72

2.3 Other hazards

- Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII** : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
- Other hazards which do not result in classification** : None known.

Nota : This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	% by weight	Classification	Specific Conc. Limits, M-factors and ATEs	Type
gasoline	REACH #: 01-2119471335-39 EC: 289-220-8 CAS: 86290-81-5	>78	Flam. Liq. 1, H224 Skin Irrit. 2, H315 Muta. 1B, H340 Carc. 1B, H350 Repr. 2, H361fd STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411	-	[1] [2]
tert-butyl methyl ether	REACH #: 01-2119452786-27 EC: 216-653-1 CAS: 1634-04-4	≤22	Flam. Liq. 2, H225 Skin Irrit. 2, H315	-	[1] [2]
ethyl tert-butyl ether	REACH #: 01-2119452785-29 EC: 211-309-7 CAS: 637-92-3	≤22	Flam. Liq. 2, H225 STOT SE 3, H336	-	[1] [2]

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SECTION 3: Composition/information on ingredients

2-methylpropan-2-ol	REACH #: 01-2119444321-51 EC: 200-889-7 CAS: 75-65-0	≤15	Flam. Liq. 2, H225 Acute Tox. 4, H332 Eye Irrit. 2, H319 STOT SE 3, H335 STOT SE 3, H336	ATE [Inhalation (vapours)] = 11 mg/l	[1] [2]
propan-2-ol	REACH #: 01-2119457558-25 EC: 200-661-7 CAS: 67-63-0	≤12	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336	-	[1] [2]
ethanol	REACH #: 01-2119457610-43 EC: 200-578-6 CAS: 64-17-5	≤10	Flam. Liq. 2, H225 Eye Irrit. 2, H319	Eye Irrit. 2, H319: C ≥ 50%	[1] [2]
2-methylpropan-1-ol	REACH #: 01-2119484609-23 EC: 201-148-0 CAS: 78-83-1	<3	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 STOT SE 3, H336	-	[1] [2]
methanol	REACH #: 01-2119433307-44 EC: 200-659-6 CAS: 67-56-1	<3	Flam. Liq. 2, H225 Acute Tox. 3, H301 Acute Tox. 3, H311 Acute Tox. 3, H331 STOT SE 1, H370 (central nervous system (CNS), eyes) See Section 16 for the full text of the H statements declared above.	ATE [Oral] = 100 mg/kg ATE [Dermal] = 300 mg/kg ATE [Inhalation (vapours)] = 3 mg/l STOT SE 1, H370: C ≥ 10% STOT SE 2, H371: 3% ≤ C < 10%	[1] [2]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a physical, health or environmental hazard

[2] Substance with a workplace exposure limit

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact

: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation

: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

SECTION 4: First aid measures

- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury. Wash clothing before reuse. Clean shoes thoroughly before reuse. Continue to rinse for at least 10 minutes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Get medical attention.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
Local necrosis as evidenced by delayed onset of pain and tissue damage a few hours after injection.
- Ingestion** : Adverse symptoms may include the following:
nausea or vomiting

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately. This material, or a component, may be associated with cardiac sensitization following very high exposures (well above occupational exposure limits) or with concurrent exposure to high stress levels or heart-stimulating substances like epinephrine. Administration of such substances should be avoided.
- Specific treatments** : No specific treatment.

See toxicological information (Section 11)

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use dry chemical, CO₂, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Specific hazards arising from the chemical : Extremely flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapour/gas is heavier than air and will spread along the ground. Vapours may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous combustion products : Aldehydes, Incomplete combustion products, Oxides of carbon, Smoke, Fume, sulfur oxides

5.3 Advice for firefighters

Special protective actions for fire-fighters : Use standard firefighting procedures and consider the hazards of other involved materials. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. Assure an extended cooling down period to prevent re-ignition. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 6: Accidental release measures

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Put on appropriate personal protective equipment. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

6.3 Methods and material for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

SECTION 6: Accidental release measures

- Large spill** : Stop leak if without risk. Eliminate all ignition sources. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spill product. Do not confine in area of spill. Allow liquid to evaporate from the surface. Seek the advice of a specialist before using dispersants. Advise occupants and shipping in downwind areas of fire and explosion hazard and warn them to stay clear. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

- 6.4 Reference to other sections** : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not swallow. Avoid breathing vapour or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container. It is dangerous and/or unlawful to put petrol into unapproved containers. Do not fill container while it is in or on a vehicle. Static electricity may ignite vapour and cause fire. Place container on ground when filling and keep nozzle in contact with container. Do not use electronic devices (including but not limited to cellular phones, computers, calculators, pagers or other electronic devices, etc.) during safety critical tasks, such as bulk fuel loading or unloading operations, or in storage areas where vapours may be present, unless the devices are certified intrinsically safe by an approved national testing agency and to the safety standards required by national and/or local laws and regulations. For use as a motor fuel only. Do not siphon by mouth.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

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SECTION 7: Handling and storage

Static Accumulator : This material is a static accumulator. A liquid is typically considered a nonconductive, static accumulator if its conductivity is below 100 pS/m (100x10E-12 Siemens per meter) and is considered a semiconductive, static accumulator if its conductivity is below 10,000 pS/m. Whether a liquid is nonconductive or semiconductive, the precautions are the same. A number of factors, for example liquid temperature, presence of contaminants, anti-static additives and filtration can greatly influence the conductivity of a liquid.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidising materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Seveso Directive - Reporting thresholds

Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
P5a E2	10 tonne 200 tonne	50 tonne 500 tonne

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
MOTOR GASOLINE (ADDITIZED)	ExxonMobil (COMPANY) TWA 8 hours: 100 ppm. Form: Vapour.. TWA 8 hours: 300 mg/m ³ . Form: Vapour..
gasoline	ACGIH TLV (United States, 1/2024) TWA 8 hours: 300 ppm. TWA 8 hours: 890 mg/m ³ . STEL 15 minutes: 500 ppm. STEL 15 minutes: 1480 mg/m ³ .
tert-butyl methyl ether	ExxonMobil (COMPANY) STEL 15 minutes: 200 ppm. TWA 8 hours: 100 ppm. DFG MAC-values list (Germany, 7/2023) TWA 8 hours: 50 ppm. PEAK 15 minutes: 75 ppm 4 times per shift [Interval: 1 hour]. TWA 8 hours: 180 mg/m ³ . PEAK 15 minutes: 270 mg/m ³ 4 times per shift [Interval: 1 hour]. TRGS 900 OEL (Germany, 1/2024) TWA 8 hours: 180 mg/m ³ . PEAK 15 minutes: 270 mg/m ³ . TWA 8 hours: 50 ppm. PEAK 15 minutes: 75 ppm.

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SECTION 8: Exposure controls/personal protection

ethyl tert-butyl ether	<p>EU OEL (Europe, 1/2022) TWA 8 hours: 183.5 mg/m³. TWA 8 hours: 50 ppm. STEL 15 minutes: 367 mg/m³. STEL 15 minutes: 100 ppm. ACGIH TLV (United States, 1/2024) TWA 8 hours: 50 ppm. ACGIH TLV (United States, 1/2024) TWA 8 hours: 25 ppm.</p>
2-methylpropan-2-ol	<p>DFG MAC-values list (Germany, 7/2023) TWA 8 hours: 20 ppm. PEAK 15 minutes: 80 ppm 4 times per shift [Interval: 1 hour]. TWA 8 hours: 62 mg/m³. PEAK 15 minutes: 248 mg/m³ 4 times per shift [Interval: 1 hour]. TRGS 900 OEL (Germany, 1/2024) TWA 8 hours: 62 mg/m³. PEAK 15 minutes: 248 mg/m³. TWA 8 hours: 20 ppm. PEAK 15 minutes: 80 ppm. ACGIH TLV (United States, 1/2024) TWA 8 hours: 100 ppm. TWA 8 hours: 303 mg/m³.</p>
propan-2-ol	<p>DFG MAC-values list (Germany, 7/2023) TWA 8 hours: 200 ppm. PEAK 15 minutes: 400 ppm 4 times per shift [Interval: 1 hour]. TWA 8 hours: 500 mg/m³. PEAK 15 minutes: 1000 mg/m³ 4 times per shift [Interval: 1 hour]. TRGS 900 OEL (Germany, 1/2024) TWA 8 hours: 500 mg/m³. PEAK 15 minutes: 1000 mg/m³. TWA 8 hours: 200 ppm. PEAK 15 minutes: 400 ppm. ACGIH TLV (United States, 1/2024) TWA 8 hours: 200 ppm. STEL 15 minutes: 400 ppm.</p>
ethanol	<p>DFG MAC-values list (Germany, 7/2023) TWA 8 hours: 200 ppm. PEAK 15 minutes: 800 ppm 4 times per shift [Interval: 1 hour]. TWA 8 hours: 380 mg/m³. PEAK 15 minutes: 1520 mg/m³ 4 times per shift [Interval: 1 hour]. TRGS 900 OEL (Germany, 1/2024) TWA 8 hours: 380 mg/m³. PEAK 15 minutes: 1520 mg/m³. TWA 8 hours: 200 ppm. PEAK 15 minutes: 800 ppm. ACGIH TLV (United States, 1/2024) STEL 15 minutes: 1000 ppm.</p>
2-methylpropan-1-ol	<p>DFG MAC-values list (Germany, 7/2023) TWA 8 hours: 100 ppm. PEAK 15 minutes: 100 ppm 4 times per shift [Interval: 1 hour]. TWA 8 hours: 310 mg/m³. PEAK 15 minutes: 310 mg/m³ 4 times per shift [Interval: 1 hour]. TRGS 900 OEL (Germany, 1/2024) TWA 8 hours: 310 mg/m³. PEAK 15 minutes: 310 mg/m³. TWA 8 hours: 100 ppm. PEAK 15 minutes: 100 ppm. ACGIH TLV (United States, 1/2024) TWA 8 hours: 50 ppm. TWA 8 hours: 152 mg/m³.</p>

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SECTION 8: Exposure controls/personal protection

methanol	<p>DFG MAC-values list (Germany, 7/2023) Absorbed through skin. TWA 8 hours: 100 ppm. PEAK 15 minutes: 200 ppm 4 times per shift [Interval: 1 hour]. TWA 8 hours: 130 mg/m³. PEAK 15 minutes: 260 mg/m³ 4 times per shift [Interval: 1 hour].</p> <p>TRGS 900 OEL (Germany, 1/2024) Absorbed through skin. TWA 8 hours: 130 mg/m³. PEAK 15 minutes: 260 mg/m³. TWA 8 hours: 100 ppm. PEAK 15 minutes: 200 ppm.</p> <p>EU OEL (Europe, 1/2022) Absorbed through skin. TWA 8 hours: 200 ppm. TWA 8 hours: 260 mg/m³.</p> <p>ACGIH TLV (United States, 1/2024) Absorbed through skin. TWA 8 hours: 200 ppm. TWA 8 hours: 262 mg/m³. STEL 15 minutes: 250 ppm. STEL 15 minutes: 328 mg/m³.</p>
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NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

Biological exposure indices

Product/ingredient name	Exposure indices
tert-butyl methyl ether	<p>DFG BEI-values list (Germany, 7/2023) BEI: See Section XII.2: Substances for which no BAT values are currently be derived, but documentaries in the "work Medico-toxicological justifications for BAT values, EKA and BLW", tert-butyl alcohol [in whole blood, in urine]. BEI: See Section XII.2: Substances for which no BAT values are currently be derived, but documentaries in the "work Medico-toxicological justifications for BAT values, EKA and BLW", tert-butyl methyl ether [in whole blood, in urine]. Sampling time: end of exposure or end of shift.</p>
propan-2-ol	<p>DFG BEI-values list (Germany, 7/2023) BEI: 25 mg/l, acetone [in blood]. Sampling time: end of exposure or end of shift. BEI: 25 mg/l, acetone [in urine]. Sampling time: end of exposure or end of shift.</p> <p>TRGS 903 - BEI Values (Germany, 6/2023) BEI: 25 mg/l, acetone [in whole blood]. Sampling time: end of exposure or end of shift. BEI: 25 mg/l, acetone [in urine]. Sampling time: end of exposure or end of shift.</p>
methanol	<p>DFG BEI-values list (Germany, 7/2023) Notes: danger from percutaneous absorption (see p. 211 and p. 228). BEI: 15 mg/l, methanol [in urine]. Sampling time: end of exposure or end of shift / for long-term exposures: at the end of the shift after several shifts.</p> <p>TRGS 903 - BEI Values (Germany, 6/2023) BEI: 15 mg/l, methanol [in urine]. Sampling time: end of exposure or end of shift; for long-term exposures: at the end of shift after several shifts.</p>

SECTION 8: Exposure controls/personal protection

Recommended monitoring procedures : Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
gasoline	DNEL	Long term Inhalation	180 mg/m ³	General population	Local
	DNEL	Long term Inhalation	840 mg/m ³	Workers	Local
tert-butyl methyl ether	DNEL	Long term Inhalation	53.6 mg/m ³	General population	Systemic
	DNEL	Long term Inhalation	178.5 mg/m ³	Workers	Systemic
	DNEL	Long term Oral	7.1 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	3570 mg/kg bw/day	General population	Systemic
propan-2-ol	DNEL	Long term Dermal	5100 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	89 mg/m ³	General population	Systemic
	DNEL	Long term Oral	26 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	319 mg/kg bw/day	General population	Systemic
ethanol	DNEL	Long term Dermal	888 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	500 mg/m ³	Workers	Systemic
	DNEL	Long term Inhalation	950 mg/m ³	Workers	Systemic
	DNEL	Long term Inhalation	114 mg/m ³	General population	Systemic
	DNEL	Long term Dermal	206 mg/kg bw/day	General population	Systemic
	DNEL	Long term Oral	87 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	343 mg/kg bw/day	Workers	Systemic

PNECs

Product/ingredient name	Compartment Detail	Value	Method Detail
tert-butyl methyl ether	Soil	1.62 mg/kg	-
	Fresh water sediment	23 mg/kg dwt	-
	Marine water sediments	1.17 mg/kg dwt	-
	Fresh water	5.1 mg/l	-
	Marine water	0.26 mg/l	-
	Sewage treatment plant	71 mg/l	-
	Air	53.6 mg/m ³	-
propan-2-ol	Soil	28 mg/kg	-
	Fresh water sediment	552 mg/kg dwt	-
	Marine water sediments	552 mg/kg dwt	-
	Secondary Poisoning	160 mg / kg (food)	-

SECTION 8: Exposure controls/personal protection

ethanol	Fresh water	140.9 mg/l	-
	Marine water	140.9 mg/l	-
	Air	89 mg/m ³	-
	Sewage treatment plant	2251 mg/l	-
	Marine water	0.79 mg/l	-
	Sewage treatment plant	580 mg/l	-
	Soil	0.63 mg/kg	-
	Fresh water sediment	3.6 mg/kg dwt	-
	Marine water sediments	2.9 mg/kg dwt	-
	Secondary Poisoning	380 mg / kg (food)	-
	Fresh water	0.96 mg/l	-

8.2 Exposure controls

Appropriate engineering controls

: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection

: 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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. > 8 hours (breakthrough time): Nitrile, minimum 0.38 mm thickness or comparable protective barrier material
CEN standards EN 420 and EN 374 provide general requirements and lists of glove types.

Body protection

: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection

: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Recommended: organic vapour filter (Type AX)

MOTOR GASOLINE (ADDITIZED)

SECTION 8: Exposure controls/personal protection

European Committee for Standardization (CEN) standards EN 136, 140 and 405 provide respirator masks and EN 149 and 143 provide filter recommendations.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1 Information on basic physical and chemical properties

Appearance

Physical state : Liquid.

Colour : Pale yellow

Odour : Characteristic.

Odour threshold : Not available.

pH : Not applicable.

Melting point/freezing point : Not available.

Boiling point or initial boiling point and boiling range : 28 to 210°C (82.4 to 410°F) [ASTM D86]

Flash point : Closed cup: <-35°C (<-31°F) [IP 170/70]

Evaporation rate : Not available.

Flammability : Flammable liquids - Category 1

Lower and upper explosion limit : Lower: 1.4%
Upper: 7.6%

Vapour pressure : 30 to 1800.15 mm Hg [37.8 °C]

Relative vapour density : >1 [Air = 1]

Relative density : <1

Density : 0.62 to 0.88 g/cm³ [15°C (59°F)]

Solubility in water : Moderate

Partition coefficient n-octanol/water (log Pow) : >3.5

Auto-ignition temperature : >250°C (>482°F)

Decomposition temperature : Not available.

Viscosity : <1 cSt [40 °C]

Particle characteristics

Median particle size : Not applicable.

9.2 Other information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability : The product is stable.

10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

MOTOR GASOLINE (ADDITIZED)

SECTION 10: Stability and reactivity

10.4 Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapour to accumulate in low or confined areas. Heat, sparks, flame, and build up of static electricity.

10.5 Incompatible materials : Reactive or incompatible with the following materials: oxidising materials, Halogens, strong acids, Strong oxidisers, Alkalies

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

SECTION 11: Toxicological information

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

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
MOTOR GASOLINE (ADDITIZED)	LC50 Inhalation Vapour	Rat	>5000 mg/m ³	4 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
tert-butyl methyl ether 2-methylpropan-2-ol	LD50 Oral	Rat	4000 mg/kg	-
	LD50 Oral	Rat	3046 mg/kg	-

Conclusion/Summary

Inhalation : Minimally Toxic. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 403

Dermal : Minimally Toxic. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 402

Oral : Minimally Toxic. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 401

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
MOTOR GASOLINE (ADDITIZED)	>5000	>5000	N/A	>20	N/A
tert-butyl methyl ether	2500	N/A	N/A	N/A	N/A
2-methylpropan-2-ol	2500	N/A	N/A	11	N/A
methanol	100	300	N/A	3	N/A

Irritation/Corrosion

Conclusion/Summary

Skin : Irritating to the skin. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 404

Eyes : Irritating and will injure eye tissue. No end point data for material. Based on assessment of the components.

Respiratory : Negligible hazard at ambient/normal handling temperatures. No end point data for material. Elevated temperatures or mechanical action may form vapours, mist, or fumes which may be irritating to the eyes, nose, throat, or lungs.

Respiratory or skin sensitization

Conclusion/Summary

Skin : Not expected to be a skin sensitizer. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 406

Respiratory : Not expected to be a respiratory sensitizer. No end point data for material.

Mutagenicity

MOTOR GASOLINE (ADDITIZED)

SECTION 11: Toxicological information

Conclusion/Summary : May cause genetic defects. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 471 475 476

Carcinogenicity

Conclusion/Summary : May cause cancer. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 451

Reproductive toxicity

Conclusion/Summary : May damage fertility. May damage the unborn child. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 416 421

Specific target organ toxicity (single exposure)

Conclusion/Summary : May cause drowsiness or dizziness. No end point data for material.

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Target organs
MOTOR GASOLINE (ADDITIZED)	Not applicable.	-

Conclusion/Summary : Not expected to cause organ damage from prolonged or repeated exposure. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 410 412 453

Aspiration hazard

Product/ingredient name	Result
MOTOR GASOLINE (ADDITIZED)	Category 1

Conclusion/Summary : May be fatal if swallowed and enters airways. Based on physico-chemical properties of the material. Data available.

Information on likely routes of exposure : Not available.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Contains no substance(s) known to have endocrine disrupting properties that affect human health

11.2.2 Other information

Contains : Gasoline unleaded: Carcinogenic in animal tests. Chronic inhalation studies resulted in liver tumours in female mice and kidney tumours in male rats. Neither result considered significant for human health risk assessment by the United States EPA and others. Did not cause mutations in-vitro or in-vivo. Negative in inhalation developmental studies and reproductive tox studies. Inhalation of high concentrations in animals resulted in reversible central nervous system depression, but no persistent toxic effect on the nervous system. Non-sensitizing in test animals. Caused nerve damage in humans from abusive use (sniffing). ETHANOL: Prolonged or repeated exposure to high concentrations of ethanol vapour or overexposure by ingestion may produce adverse effects to brain, kidney, liver, and reproductive organs, birth defects in offspring, and developmental toxicity in offspring. METHANOL: Human exposure to methanol may result in illness, systemic poisoning, blindness, optic nerve damage and perhaps death, after being ingested, absorbed through the skin or inhaled. Death due to cardiac or respiratory failure has been reported in some cases from consumption of as little as 30 mls. Exposure to high concentrations of methanol has been shown to cause developmental effects in rodent offspring. Methyl tertiary butyl ether (MTBE): Carcinogenic in animal tests. Inhalation exposure to high concentrations resulted in higher than expected mortality in male mice due to urinary tract obstructions and female mice displayed benign liver tumors. Inhalation exposure to high concentrations resulted in higher than expected mortality in male rats due to progressive kidney damage as well as increased benign and malignant kidney tumors, and benign testicular tumors. Drinking water exposure to high concentrations resulted in progressive kidney damage in rats and a marginally

MOTOR GASOLINE (ADDITIZED)

SECTION 11: Toxicological information

increased statistical trend of brain tumors in male rats. Tumor incidence was within historical control levels and concluded to not be related to MTBE exposure. Did not cause mutations In Vitro or In vivo. Rabbits exposed to high vapor concentrations did not have any offspring with adverse developmental effects. Mice exposed to high vapor concentrations (maternally toxic) had offspring with embryo/fetal toxicity and birth defects. Rats exposed to high vapor concentrations did not display any treatment-related effects in a two generation reproduction study. The significance of the animal findings at high exposures are not believed to be directly related to potential human health hazards.

Product

: Vapour concentrations above recommended exposure levels are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anaesthetic and may have other central nervous system effects. Laboratory animal studies have shown that prolonged and repeated inhalation exposure to light hydrocarbon vapours in the same boiling range as this product can produce adverse kidney effects in male rats. However, these effects were not observed in similar studies with female rats, male and female mice, or in limited studies with other animal species. Additionally, in a number of human studies, there was no clinical evidence of such effects at normal occupational levels. In 1991, The U.S. EPA determined that the male rat kidney is not useful for assessing human risk. Gasoline unleaded: Carcinogenic in animal tests. Chronic inhalation studies resulted in liver tumours in female mice and kidney tumours in male rats. Neither result considered significant for human health risk assessment by the United States EPA and others. Did not cause mutations in-vitro or in-vivo. Negative in inhalation developmental studies and reproductive tox studies. Inhalation of high concentrations in animals resulted in reversible central nervous system depression, but no persistent toxic effect on the nervous system. Non-sensitizing in test animals. Caused nerve damage in humans from abusive use (sniffing). Exposure to this material, or one of its components, in situations where there is the potential for high levels, such as in confined spaces or with abuse, may result in abnormal heart rhythm (arrhythmia). High-level exposure to hydrocarbons (above occupational exposure limits) may initiate arrhythmia in a worker that is undergoing stress or is taking a heart-stimulating substance such as epinephrine, a nasal decongestant, or an asthma or cardiovascular drug. Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.

Section 12. Ecological information

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

12.1 Toxicity

Product/ingredient name	Duration	Species	Result
MOTOR GASOLINE (ADDITIZED)	72 hours	Algae - <i>Pseudokirchneriella subcapitata</i>	Acute EL50 1 to 1000 mg/l data for similar materials
	48 hours	daphnia - <i>Daphnia magna</i>	Acute EL50 1 to 100 mg/l data for similar materials
	96 hours	Fish - <i>Fish</i>	Acute LL50 1 to 100 mg/l data for similar materials
	72 hours	Algae - <i>Pseudokirchneriella subcapitata</i>	Chronic NOEL 1 to 100 mg/l data for similar materials
	21 days	daphnia - <i>Daphnia magna</i>	Chronic NOEL 1 to 10 mg/l data for similar materials

Conclusion/Summary

Acute toxicity : Toxic to aquatic life.

Chronic toxicity : Toxic to aquatic life with long lasting effects.

12.2 Persistence and degradability

MOTOR GASOLINE (ADDITIZED)

Section 12. Ecological information

Product/ingredient name	Test	Result	Qualifier	Media
MOTOR GASOLINE (ADDITIZED)	Ready Biodegradability	<60 % - 28 days	data for similar materials	water

Biodegradability : Components -- Ether oxygenates may biodegrade slowly. Material -- Expected to be inherently biodegradable

Atmospheric Oxidation : Majority of components -- Expected to degrade rapidly in air

12.3 Bioaccumulative potential

Conclusion/Summary : Majority of components -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

12.4 Mobility in soil

Mobility : Components -- Ether oxygenates are significantly more soluble than other components of gasoline like benzene, toluene, ethyl benzene and xylenes (BTEX) if released into groundwater. Ether oxygenates may also biodegrade more slowly, have the potential to move farther and faster in groundwater and have the potential to contaminate larger areas of groundwater than BTEX if released into groundwater. High molecular wt. component -- Low potential to migrate through soil. Low molecular wt. component -- Moderate potential to migrate through soil. Majority of components -- Highly volatile, will partition rapidly to air. Moderate potential to migrate through soil. Not expected to partition to sediment and wastewater solids.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Endocrine disrupting properties

Contains no substance(s) known to have endocrine disrupting properties that affect the environment

12.7 Other adverse effects

Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : Yes.

European waste catalogue (EWC)

Waste code	Waste designation
13 07 02*	Petrol

NOTE: These codes are assigned based upon the most common uses for this material and may not reflect contaminants resulting from actual use. Waste producers need to assess the actual process used when generating the waste and its contaminants in order to assign the proper waste disposal code(s).

Packaging

MOTOR GASOLINE (ADDITIZED)

SECTION 13: Disposal considerations

- Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
- Special precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. **DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.**

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number or ID number	UN1203	UN1203	UN1203	UN1203
14.2 UN proper shipping name	GASOLINE	GASOLINE	GASOLINE	Gasoline
14.3 Transport hazard class(es)	3	3	3	3
Label(s) / Mark(s)				
14.4 Packing group	II	II	II	II
14.5 Environmental hazards	Yes.	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.

Additional information

- ADR/RID** : The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.
Hazard identification number 33
Limited quantity 1 L
Special provisions 243, 534, 664
Tunnel code (D/E)
- ADN** : The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.
Special provisions 243, 534
 CMR, N2
- IMDG** : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.
Emergency schedules F-E, S-E
Special provisions 243
 Flash point <-35 °C C.C.
- IATA** : The environmentally hazardous substance mark may appear if required by other transportation regulations.
Quantity limitation Passenger and Cargo Aircraft: 5 L. Packaging instructions: 353. Cargo Aircraft Only: 60 L. Packaging instructions: 364. Limited Quantities - Passenger Aircraft: 1 L. Packaging instructions: Y341.
Special provisions A100

MOTOR GASOLINE (ADDITIZED)

SECTION 14: Transport information

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Maritime transport in bulk according to IMO instruments : Not applicable.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : 48, 69, 72

Other EU regulations

Explosive precursors : Not applicable.

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category
P5a
E2

National regulations

Storage class (TRGS 510) : 3

Hazardous incident ordinance

This product is controlled under the Germany Hazardous Incident Ordinance.

Danger criteria

Category	Reference number
P5a	1.2.5.1
E2	1.3.2

Hazard class for water : 3

Technical instruction on air quality control (TA Luft)

Number [Class]	Description	%
5.2.5	Organic substances	86.9
5.2.5 [I]	Organic substances	64.9
5.2.7.1.1 [II]	Carcinogenic substances	100

Inventory list

Australia inventory (AIC) : Not determined.

Canada inventory (DSL-NDSL) : Restrictions Apply

China inventory (IECSC) : Not determined.

MOTOR GASOLINE (ADDITIZED)

SECTION 15: Regulatory information

Japan inventory (CSCL)	: Not determined.
Japan inventory (Industrial Safety and Health Act)	: Not determined.
New Zealand Inventory of Chemicals (NZIoC)	: All components are listed or exempted.
Philippines inventory (PICCS)	: Not determined.
Korea inventory (KECI)	: All components are listed or exempted.
Taiwan Chemical Substances Inventory (TCSI)	: All components are listed or exempted.
United States inventory (TSCA 8b)	: All components are active or exempted.

15.2 Chemical safety assessment : This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms	: ATE = Acute Toxicity Estimate CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008] DMEL = Derived Minimal Effect Level DNEL = Derived No Effect Level EUH statement = CLP-specific Hazard statement N/A = Not available PBT = Persistent, Bioaccumulative and Toxic PNEC = Predicted No Effect Concentration RRN = REACH Registration Number SGG = Segregation Group vPvB = Very Persistent and Very Bioaccumulative
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Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Flam. Liq. 1, H224	On basis of test data
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2, H319	Calculation method
Muta. 1B, H340	Calculation method
Carc. 1B, H350	Calculation method
Repr. 2, H361fd	Calculation method
STOT SE 3, H336	Calculation method
Asp. Tox. 1, H304	Calculation method
Aquatic Chronic 2, H411	Calculation method

Full text of abbreviated H statements

H224	Extremely flammable liquid and vapour.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H340	May cause genetic defects.
H350	May cause cancer.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.

MOTOR GASOLINE (ADDITIZED)

SECTION 16: Other information

H370 Causes damage to organs.
H411 Toxic to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS]

Acute Tox. 3	ACUTE TOXICITY - Category 3
Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Asp. Tox. 1	ASPIRATION HAZARD - Category 1
Carc. 1B	CARCINOGENICITY - Category 1B
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Flam. Liq. 1	FLAMMABLE LIQUIDS - Category 1
Flam. Liq. 2	FLAMMABLE LIQUIDS - Category 2
Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3
Muta. 1B	GERM CELL MUTAGENICITY - Category 1B
Repr. 2	REPRODUCTIVE TOXICITY - Category 2
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
STOT SE 1	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 1
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

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Version : 2.02

Product code : P000001921

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Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mixture
Code : P000001921
Product name : MOTOR GASOLINE (ADDITIZED) (EU)

Section 1 - Title

Short title of the exposure scenario : Manufacture of substance
List of use descriptors : **Identified use name:** Manufacture of substance
Process Category: PROC01, PROC02, PROC03, PROC08a, PROC08b, PROC15
Sector of end use: SU03, SU08, SU09, SU10
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC01
Environmental contributing scenarios : **General exposures** - ERC01
Health Contributing scenarios : **General measures applicable to all activities** - PROC01, PROC02, PROC03, PROC08a, PROC08b, PROC15
General exposures (closed systems) - PROC01
With sample collection - PROC02
Batch process - PROC03
Laboratory activities - PROC15
Bulk transfers - PROC08b
Equipment cleaning and maintenance - PROC08a
Storage - PROC02

Processes and activities covered by the exposure scenario	: Manufacture of other substances: use as process chemical or extraction agent. Includes recycling/ recovery, material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge, road/ rail car and bulk container).
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Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures	
Product characteristics	: Predominantly hydrophobic Substance is complex UVCB.
Amounts used	: Annual site tonnage (tonnes/year): 600 000 tonnes/year Fraction of EU tonnage used in region: 0.1 Fraction of Regional tonnage used locally: 0.027 Maximum daily site tonnage (kg/day): 2 000 000 kg/day Regional use tonnage (tonnes/year): 22 000 000 tonnes/year
Frequency and duration of use	: Continuous release Emission days (days per year): 300 days per year
Environment factors not influenced by risk management	: Local freshwater dilution factor: 10 Local marine water dilution factor: 100
Other operational conditions of use affecting environmental exposure	: Release fraction to air from process (initial release prior to RMM): 0.05 Release fraction to soil from process (initial release prior to RMM): 0.0001 Release fraction to wastewater from process (initial release prior to RMM): 0.003
Technical conditions and measures at process level (source) to prevent release	: Common practices vary across sites thus conservative process release estimates used.

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Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil	: If discharging to municipal sewage treatment plant, provide the required on-site wastewater removal efficiency of: 94.7 % Risk from environmental exposure is driven by freshwater sediment. Treat air emission to provide a typical removal efficiency of: 90 % Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of: 99.8 %
Organisational measures to prevent/limit release from site	: Do not apply industrial sludge to natural soils. Prevent discharge of undissolved substance to or recover from onsite wastewater. Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to municipal sewage treatment plant	: Assumed domestic sewage treatment plant flow (m ³ /day): 10 000 m ³ /day Estimated substance removal from wastewater via municipal sewage treatment: 95.8 % Not applicable as there is no release to wastewater. Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow] (kg/day): 2 000 000 kg/day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 99.8 %
Conditions and measures related to external treatment of waste for disposal	: During manufacturing, no waste of the substance is generated.
Conditions and measures related to external recovery of waste	: During manufacturing, no waste of the substance is generated.

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

General measures (aspiration)

The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. Do not induce vomiting.

General measures (flammability)

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Avoid all possible sources of ignition (spark or flame). - No smoking. Handle substance within a closed system. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards / EU regulations / national regulations. Review SDS for additional advice..

General measures (skin irritants)

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

General measures (carcinogens)

Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down and flush system prior to equipment break-in or maintenance. Cleaning manufacturing equipment for maintenance purposes. Exposure (Potential): Only allow access to authorised persons. Ensure operatives are trained to minimise exposures. Wear suitable coveralls to prevent exposure to the skin. Wear respiratory protection when its use is identified for certain contributing scenarios. Clear up spills immediately and dispose of waste safely. Ensure safe systems of work or equivalent arrangements are in place to manage risks. Ensure control measures are regularly inspected and maintained. Consider the need for risk based health surveillance.

Product characteristics : Liquid
Concentration of substance in mixture or article : Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure : Operation is carried out at elevated temperature (> 20°C above ambient temperature)
Conditions and measures related to personal protection, hygiene and health evaluation
Advice on general occupational hygiene : Assumes a good basic standard of occupational hygiene is implemented

Contributing scenario controlling worker exposure for 3: General exposures (closed systems)

Continuous process

Product characteristics : Liquid
Concentration of substance in mixture or article : Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure : Operation is carried out at elevated temperature (> 20°C above ambient temperature)
Technical conditions and measures at process level (source) to prevent release : Handle substance within a closed system.
Conditions and measures related to personal protection, hygiene and health evaluation
Advice on general occupational hygiene : Assumes a good basic standard of occupational hygiene is implemented

Contributing scenario controlling worker exposure for 4: With sample collection

General exposures (closed systems)

Product characteristics : Liquid
Concentration of substance in mixture or article : Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure : Operation is carried out at elevated temperature (> 20°C above ambient temperature)
Technical conditions and measures at process level (source) to prevent release : Handle substance within a closed system.
 Sample via a closed loop or other system to avoid exposure.
Conditions and measures related to personal protection, hygiene and health evaluation
Advice on general occupational hygiene : Assumes a good basic standard of occupational hygiene is implemented
Personal protection : Wear suitable gloves tested to EN374.

Contributing scenario controlling worker exposure for 5: Batch process

General exposures (closed systems)

Product characteristics : Liquid
Concentration of substance in mixture or article : Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)

Other operational conditions affecting worker exposure : Operation is carried out at elevated temperature (> 20°C above ambient temperature)

Technical conditions and measures at process level (source) to prevent release : Handle substance within a closed system. Ensure operation is undertaken outdoors.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene : Assumes a good basic standard of occupational hygiene is implemented

Contributing scenario controlling worker exposure for 6: Laboratory activities

Product characteristics : Liquid

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100 %.

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)

Other operational conditions affecting worker exposure : Operation is carried out at elevated temperature (> 20°C above ambient temperature)

Technical conditions and measures at process level (source) to prevent release : Handle within a fume cupboard or implement suitable equivalent methods to minimise exposure.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene : Assumes a good basic standard of occupational hygiene is implemented

Contributing scenario controlling worker exposure for 7: Bulk transfers

Product characteristics : Liquid

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100 %.

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)

Other operational conditions affecting worker exposure : Operation is carried out at elevated temperature (> 20°C above ambient temperature)

Ventilation control measures : Ensure material transfers are under containment or extract ventilation.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene : Assumes a good basic standard of occupational hygiene is implemented

Contributing scenario controlling worker exposure for 8: Equipment cleaning and maintenance

Product characteristics : Liquid

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100 %.

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)

Other operational conditions affecting worker exposure : Operation is carried out at elevated temperature (> 20°C above ambient temperature)

Technical conditions and measures at process level (source) to prevent release : Drain down and flush system prior to equipment break-in or maintenance. Retain drain-downs in sealed storage pending disposal or for subsequent recycle.

Organisational measures to prevent/limit releases, dispersion and exposure : Clear spills immediately.

Conditions and measures related to personal protection, hygiene and health evaluation

- Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented
- Personal protection** : Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.

Contributing scenario controlling worker exposure for 9: Storage

- Product characteristics** : Liquid
- Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.
- Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours (unless stated differently)
- Other operational conditions affecting worker exposure** : Operation is carried out at elevated temperature (> 20°C above ambient temperature)
- Technical conditions and measures at process level (source) to prevent release** : Store substance within a closed system.
Ensure operation is undertaken outdoors.

Conditions and measures related to personal protection, hygiene and health evaluation

- Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

Section 3 - Exposure estimation and reference to its source

Website: : Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

- Exposure assessment (environment):** : Hydrocarbon Block Method (Petrorisk)
- Exposure estimation and reference to its source** : ESVOC SPERC 1.1.v1

Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities

- Exposure assessment (human):** : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
- Exposure estimation and reference to its source** : Not available.

Exposure estimation and reference to its source - Workers: 3: General exposures (closed systems)

- Exposure assessment (human):** : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
- Exposure estimation and reference to its source** : Not available.

Exposure estimation and reference to its source - Workers: 4: With sample collection

- Exposure assessment (human):** : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
- Exposure estimation and reference to its source** : Not available.

Exposure estimation and reference to its source - Workers: 5: Batch process

- Exposure assessment (human):** : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
- Exposure estimation and reference to its source** : Not available.

Exposure estimation and reference to its source - Workers: 6: Laboratory activities

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 7: Bulk transfers

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 8: Equipment cleaning and maintenance

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 9: Storage

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Not available.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	<p>: Further details on scaling and control technologies are provided in SPERC factsheet. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.</p> <p>Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.</p> <p>Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.</p> <p>Scaled local assessments for EU refineries have been performed using site-specific data and are attached in PETRORISK file - "Site-Specific Production" worksheet.</p>
Health	<p>: Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.</p> <p>Available hazard data do not support the need for a DNEL to be established for other health effects.</p> <p>Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.</p> <p>Risk management measures are based on qualitative risk characterisation. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.</p>

Additional good practice advice beyond the REACH CSA

Environment	: Not available.
Health	: Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mixture
Code : P000001921
Product name : MOTOR GASOLINE (ADDITIZED) (EU)

Section 1 - Title

Short title of the exposure scenario : Distribution of substance
List of use descriptors : **Identified use name:** Distribution of substance
Process Category: PROC01, PROC02, PROC03, PROC08a, PROC08b, PROC15
Sector of end use: SU03, SU08, SU09
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04, ERC06a, ERC06b, ERC06c, ERC06d, ERC07
Environmental contributing scenarios : **General exposures** - ERC04, ERC06a, ERC06b, ERC06c, ERC06d, ERC07
Health Contributing scenarios : **General measures applicable to all activities** - PROC01, PROC02, PROC03, PROC08a, PROC08b, PROC15
General exposures (closed systems) - PROC01, PROC03
With sample collection - PROC02
Process sampling - PROC03
Laboratory activities - PROC15
Bulk closed loading and unloading - PROC08b
Equipment cleaning and maintenance - PROC08a
Storage - PROC02
Bulk closed loading - PROC08b

Processes and activities covered by the exposure scenario : Loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading distribution and associated laboratory activities.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics : Predominantly hydrophobic
Substance is complex UVCB.
Amounts used : Annual site tonnage (tonnes/year): 51 000 tonnes/year
Fraction of EU tonnage used in region: 0.1
Fraction of Regional tonnage used locally: 0.002
Maximum daily site tonnage (kg/day): 170 000 kg/day
Regional use tonnage (tonnes/year): 25 000 000 tonnes/year
Frequency and duration of use : Continuous release
Emission days (days per year): 300 days per year
Environment factors not influenced by risk management : Local freshwater dilution factor: 10
Local marine water dilution factor: 100
Other operational conditions of use affecting environmental exposure : Release fraction to air from process (initial release prior to RMM): 0.001
Release fraction to soil from process (initial release prior to RMM): 0.00001
Release fraction to wastewater from process (initial release prior to RMM): 0.00001
Technical conditions and measures at process level (source) to prevent release : Common practices vary across sites thus conservative process release estimates used.

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil	: If discharging to municipal sewage treatment plant, no on-site wastewater treatment required. If discharging to municipal sewage treatment plant, provide the required on-site wastewater removal efficiency of: ≥ 0 % Risk from environmental exposure is driven by freshwater. Treat air emission to provide a typical removal efficiency of: 90 % Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of: ≥ 83.3 %
Organisational measures to prevent/limit release from site	: Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to municipal sewage treatment plant	: Assumed domestic sewage treatment plant flow (m ³ /day): 2 000 m ³ /day Estimated substance removal from wastewater via municipal sewage treatment: 95.8 % Not applicable as there is no release to wastewater. Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow] (kg/day): 670 000 kg/day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 95.8 %
Conditions and measures related to external treatment of waste for disposal	: External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	: External recovery and recycling of waste should comply with applicable local and/or national regulations.

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

General measures (aspiration)

The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. Do not induce vomiting.

General measures (flammability)

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Avoid all possible sources of ignition (spark or flame). - No smoking. Handle substance within a closed system. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards / EU regulations / national regulations. Review SDS for additional advice..

General measures (skin irritants)

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

General measures (carcinogens)

Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down and flush system prior to equipment break-in or maintenance. Cleaning manufacturing equipment for maintenance purposes. Exposure (Potential): Only allow access to authorised persons. Ensure operatives are trained to minimise exposures. Wear suitable coveralls to prevent exposure to the skin. Wear respiratory protection when its use is identified for certain contributing scenarios. Clear up spills immediately and dispose of waste safely. Ensure safe systems of work or equivalent arrangements are in place to manage risks. Ensure control measures are regularly inspected and maintained. Consider the need for risk based health surveillance.

Product characteristics	: Liquid
Concentration of substance in mixture or article	: Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	: Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	: Assumes use at not more than 20°C above ambient temperature.
Conditions and measures related to personal protection, hygiene and health evaluation	
Advice on general occupational hygiene	: Assumes a good basic standard of occupational hygiene is implemented

Contributing scenario controlling worker exposure for 3: General exposures (closed systems)

Outdoor

Product characteristics	: Liquid
Concentration of substance in mixture or article	: Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	: Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	: Assumes use at not more than 20°C above ambient temperature.
Technical conditions and measures at process level (source) to prevent release	: Handle substance within a closed system.
Conditions and measures related to personal protection, hygiene and health evaluation	
Advice on general occupational hygiene	: Assumes a good basic standard of occupational hygiene is implemented

Contributing scenario controlling worker exposure for 4: With sample collection

General exposures (closed systems)

Product characteristics	: Liquid
Concentration of substance in mixture or article	: Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	: Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	: Assumes use at not more than 20°C above ambient temperature.
Technical conditions and measures at process level (source) to prevent release	: Handle substance within a closed system. Sample via a closed loop or other system to avoid exposure.
Conditions and measures related to personal protection, hygiene and health evaluation	
Advice on general occupational hygiene	: Assumes a good basic standard of occupational hygiene is implemented
Personal protection	: Wear suitable gloves tested to EN374.

Contributing scenario controlling worker exposure for 5: Process sampling

Product characteristics	: Liquid
Concentration of substance in mixture or article	: Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	: Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	: Assumes use at not more than 20°C above ambient temperature.
Technical conditions and measures at process level (source) to prevent release	: Sample via a closed loop or other system to avoid exposure.
Conditions and measures related to personal protection, hygiene and health evaluation	
Advice on general occupational hygiene	: Assumes a good basic standard of occupational hygiene is implemented

Contributing scenario controlling worker exposure for 6: Laboratory activities

Product characteristics	: Liquid
Concentration of substance in mixture or article	: Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	: Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	: Assumes use at not more than 20°C above ambient temperature.
Technical conditions and measures at process level (source) to prevent release	: Handle within a fume cupboard or implement suitable equivalent methods to minimise exposure.
Conditions and measures related to personal protection, hygiene and health evaluation	
Advice on general occupational hygiene	: Assumes a good basic standard of occupational hygiene is implemented

Contributing scenario controlling worker exposure for 7: Bulk closed loading and unloading

Product characteristics	: Liquid
Concentration of substance in mixture or article	: Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	: Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	: Assumes use at not more than 20°C above ambient temperature.
Ventilation control measures	: Ensure material transfers are under containment or extract ventilation.
Conditions and measures related to personal protection, hygiene and health evaluation	
Advice on general occupational hygiene	: Assumes a good basic standard of occupational hygiene is implemented

Contributing scenario controlling worker exposure for 8: Equipment cleaning and maintenance

Product characteristics	: Liquid
Concentration of substance in mixture or article	: Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	: Covers daily exposures up to 8 hours (unless stated differently)

Other operational conditions affecting worker exposure	: Assumes use at not more than 20°C above ambient temperature.
Technical conditions and measures at process level (source) to prevent release	: Drain down and flush system prior to equipment break-in or maintenance. Retain drain-downs in sealed storage pending disposal or for subsequent recycle.
Organisational measures to prevent/limit releases, dispersion and exposure	: Clear spills immediately.
Conditions and measures related to personal protection, hygiene and health evaluation	
Advice on general occupational hygiene	: Assumes a good basic standard of occupational hygiene is implemented
Personal protection	: Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.

Contributing scenario controlling worker exposure for 9: Storage

Product characteristics	: Liquid
Concentration of substance in mixture or article	: Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	: Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	: Assumes use at not more than 20°C above ambient temperature.
Technical conditions and measures at process level (source) to prevent release	: Store substance within a closed system. Ensure operation is undertaken outdoors.
Conditions and measures related to personal protection, hygiene and health evaluation	
Advice on general occupational hygiene	: Assumes a good basic standard of occupational hygiene is implemented

Contributing scenario controlling worker exposure for 10: Bulk closed loading

Product characteristics	: Liquid
Concentration of substance in mixture or article	: Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	: Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	: Assumes use at not more than 20°C above ambient temperature.
Ventilation control measures	: Ensure material transfers are under containment or extract ventilation.
Conditions and measures related to personal protection, hygiene and health evaluation	
Advice on general occupational hygiene	: Assumes a good basic standard of occupational hygiene is implemented

Section 3 - Exposure estimation and reference to its source

Website:	: Not applicable.
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Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	: Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	: ESVOC SPERC 1.1b.v1

Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 3: General exposures (closed systems)

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 4: With sample collection

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 5: Process sampling

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 6: Laboratory activities

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 7: Bulk closed loading and unloading

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 8: Equipment cleaning and maintenance

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 9: Storage

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 10: Bulk closed loading

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Not available.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	<p>: Further details on scaling and control technologies are provided in SPERC factsheet. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.</p> <p>Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.</p> <p>Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.</p>
Health	<p>: Available hazard data do not enable the derivation of a DNEL for carcinogenic effects.</p> <p>Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.</p> <p>Available hazard data do not support the need for a DNEL to be established for other health effects.</p> <p>Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.</p> <p>Risk management measures are based on qualitative risk characterisation. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.</p>

Additional good practice advice beyond the REACH CSA

Environment	: Not available.
Health	: Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mixture
Code : P000001921
Product name : MOTOR GASOLINE (ADDITIZED) (EU)

Section 1 - Title

Short title of the exposure scenario : Formulation and (re)packing of substances and mixtures

List of use descriptors : **Identified use name:** Formulation and (re)packing of substances and mixtures
Process Category: PROC01, PROC02, PROC03, PROC08a, PROC08b, PROC15
Sector of end use: SU03, SU10
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02

Environmental contributing scenarios : **General exposures** - ERC02

Health Contributing scenarios : **General measures applicable to all activities** - PROC01, PROC02, PROC03, PROC08a, PROC08b, PROC15
General exposures (closed systems) - PROC01, PROC03
With sample collection - PROC02
Process sampling - PROC03
Laboratory activities - PROC15
Bulk transfers - PROC08b
Drum/batch transfers - PROC08b
Equipment cleaning and maintenance - PROC08a
Storage - PROC02

Processes and activities covered by the exposure scenario	: Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tableting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities.
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Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures	
Product characteristics	: Predominantly hydrophobic Substance is complex UVCB.
Amounts used	: Annual site tonnage (tonnes/year): 30 000 tonnes/year Fraction of EU tonnage used in region: 0.1 Fraction of Regional tonnage used locally: 0.0022 Maximum daily site tonnage (kg/day): 100 000 kg/day Regional use tonnage (tonnes/year): 14 000 000 tonnes/year
Frequency and duration of use	: Continuous release Emission days (days per year): 300 days per year
Environment factors not influenced by risk management	: Local freshwater dilution factor: 10 Local marine water dilution factor: 100
Other operational conditions of use affecting environmental exposure	: Release fraction to air from process (after typical onsite RMMs consistent with EU Solvent Emissions Directive requirements): 0.025 Release fraction to soil from process (initial release prior to RMM): 0.0001 Release fraction to wastewater from process (initial release prior to RMM): 0.002
Technical conditions and measures at process level (source) to prevent release	: Common practices vary across sites thus conservative process release estimates used.

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil	: If discharging to municipal sewage treatment plant, provide the required on-site wastewater removal efficiency of: 68 % Risk from environmental exposure is driven by freshwater sediment. Treat air emission to provide a typical removal efficiency of: 0 % Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of: 98.7 %
Organisational measures to prevent/limit release from site	: Do not apply industrial sludge to natural soils. Prevent discharge of undissolved substance to or recover from onsite wastewater. Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to municipal sewage treatment plant	: Assumed domestic sewage treatment plant flow (m ³ /day): 2 000 m ³ /day Estimated substance removal from wastewater via municipal sewage treatment: 95.8 % Not applicable as there is no release to wastewater. Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow] (kg/day): 100 000 kg/day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 98.7 %
Conditions and measures related to external treatment of waste for disposal	: External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	: External recovery and recycling of waste should comply with applicable local and/or national regulations.

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

General measures (aspiration)

The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. Do not induce vomiting.

General measures (flammability)

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Avoid all possible sources of ignition (spark or flame). - No smoking. Handle substance within a closed system. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards / EU regulations / national regulations. Review SDS for additional advice..

General measures (skin irritants)

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

General measures (carcinogens)

Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down and flush system prior to equipment break-in or maintenance. Cleaning manufacturing equipment for maintenance purposes. Exposure (Potential): Only allow access to authorised persons. Ensure operatives are trained to minimise exposures. Wear suitable coveralls to prevent exposure to the skin. Wear respiratory protection when its use is identified for certain contributing scenarios. Clear up spills immediately and dispose of waste safely. Ensure safe systems of work or equivalent arrangements are in place to manage risks. Ensure control measures are regularly inspected and maintained. Consider the need for risk based health surveillance.

Product characteristics : Liquid
Concentration of substance in mixture or article : Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure : Assumes use at not more than 20°C above ambient temperature.
Conditions and measures related to personal protection, hygiene and health evaluation
Advice on general occupational hygiene : Assumes a good basic standard of occupational hygiene is implemented

Contributing scenario controlling worker exposure for 3: General exposures (closed systems)

Outdoor

Product characteristics : Liquid
Concentration of substance in mixture or article : Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure : Assumes use at not more than 20°C above ambient temperature.
Technical conditions and measures at process level (source) to prevent release : Handle substance within a closed system.
Conditions and measures related to personal protection, hygiene and health evaluation
Advice on general occupational hygiene : Assumes a good basic standard of occupational hygiene is implemented

Contributing scenario controlling worker exposure for 4: With sample collection

General exposures (closed systems)

Product characteristics : Liquid
Concentration of substance in mixture or article : Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure : Assumes use at not more than 20°C above ambient temperature.
Technical conditions and measures at process level (source) to prevent release : Handle substance within a closed system.
 Sample via a closed loop or other system to avoid exposure.
Conditions and measures related to personal protection, hygiene and health evaluation
Advice on general occupational hygiene : Assumes a good basic standard of occupational hygiene is implemented
Personal protection : Wear suitable gloves tested to EN374.

Contributing scenario controlling worker exposure for 5: Process sampling

Product characteristics : Liquid
Concentration of substance in mixture or article : Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)

Other operational conditions affecting worker exposure : Assumes use at not more than 20°C above ambient temperature.

Technical conditions and measures at process level (source) to prevent release : Sample via a closed loop or other system to avoid exposure.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene : Assumes a good basic standard of occupational hygiene is implemented

Contributing scenario controlling worker exposure for 6: Laboratory activities

Product characteristics : Liquid

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100 %.

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)

Other operational conditions affecting worker exposure : Assumes use at not more than 20°C above ambient temperature.

Technical conditions and measures at process level (source) to prevent release : Handle within a fume cupboard or implement suitable equivalent methods to minimise exposure.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene : Assumes a good basic standard of occupational hygiene is implemented

Contributing scenario controlling worker exposure for 7: Bulk transfers

Product characteristics : Liquid

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100 %.

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)

Other operational conditions affecting worker exposure : Assumes use at not more than 20°C above ambient temperature.

Ventilation control measures : Ensure material transfers are under containment or extract ventilation.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene : Assumes a good basic standard of occupational hygiene is implemented

Contributing scenario controlling worker exposure for 8: Drum/batch transfers

Product characteristics : Liquid

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100 %.

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)

Other operational conditions affecting worker exposure : Assumes use at not more than 20°C above ambient temperature.

Ventilation control measures : Ensure material transfers are under containment or extract ventilation.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene : Assumes a good basic standard of occupational hygiene is implemented

Contributing scenario controlling worker exposure for 9: Equipment cleaning and maintenance

Product characteristics	: Liquid
Concentration of substance in mixture or article	: Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	: Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	: Assumes use at not more than 20°C above ambient temperature.
Technical conditions and measures at process level (source) to prevent release	: Drain down and flush system prior to equipment break-in or maintenance. Retain drain-downs in sealed storage pending disposal or for subsequent recycle.
Organisational measures to prevent/limit releases, dispersion and exposure	: Clear spills immediately.
Conditions and measures related to personal protection, hygiene and health evaluation	
Advice on general occupational hygiene	: Assumes a good basic standard of occupational hygiene is implemented
Personal protection	: Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.

Contributing scenario controlling worker exposure for 10: Storage

Product characteristics	: Liquid
Concentration of substance in mixture or article	: Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	: Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	: Assumes use at not more than 20°C above ambient temperature.
Technical conditions and measures at process level (source) to prevent release	: Store substance within a closed system.
Conditions and measures related to personal protection, hygiene and health evaluation	
Advice on general occupational hygiene	: Assumes a good basic standard of occupational hygiene is implemented
Personal protection	: Wear suitable gloves tested to EN374.

Section 3 - Exposure estimation and reference to its source

Website:	: Not applicable.
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Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	: Hydrocarbon Block Method (Petrisk)
Exposure estimation and reference to its source	: ESVOC SPERC 2.2.v1

Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities

Exposure assessment (human):	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
Exposure estimation and reference to its source	: Not available.

Exposure estimation and reference to its source - Workers: 3: General exposures (closed systems)

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 4: With sample collection

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 5: Process sampling

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 6: Laboratory activities

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 7: Bulk transfers

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 8: Drum/batch transfers

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 9: Equipment cleaning and maintenance

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 10: Storage

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
Exposure estimation and reference to its source : Not available.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment : Further details on scaling and control technologies are provided in SPERC factsheet. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
 Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.
 Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

Health	: Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Available hazard data do not support the need for a DNEL to be established for other health effects. Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Risk management measures are based on qualitative risk characterisation. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
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Additional good practice advice beyond the REACH CSA

Environment	: Not available.
Health	: Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mixture
Code : P000001921
Product name : MOTOR GASOLINE (ADDITIZED) (EU)

Section 1 - Title

Short title of the exposure scenario : Use as a fuel - Industrial
List of use descriptors : **Identified use name:** Use as a fuel - Industrial
Process Category: PROC01, PROC02, PROC03, PROC08a, PROC08b, PROC16
Sector of end use: SU03
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC07
Environmental contributing scenarios : **General exposures** - ERC07
Health Contributing scenarios : **General measures applicable to all activities** - PROC01, PROC02, PROC03, PROC08a, PROC08b, PROC16
Bulk closed unloading - PROC08b
Drum/batch transfers - PROC08b
Refuelling - PROC08b
Refuelling aircraft - PROC08b
General exposures (closed systems) - PROC01, PROC02, PROC03
Use as a fuel - PROC16
Equipment cleaning and maintenance - PROC08a
Storage - PROC02

Processes and activities covered by the exposure scenario	: Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.
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Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures	
Product characteristics	: Predominantly hydrophobic Substance is complex UVCB.
Amounts used	: Annual site tonnage (tonnes/year): 1 500 000 tonnes/year Fraction of EU tonnage used in region: 0.1 Fraction of Regional tonnage used locally: 0.89 Maximum daily site tonnage (kg/day): 5 000 000 kg/day Regional use tonnage (tonnes/year): 1 700 000 tonnes/year
Frequency and duration of use	: Continuous release Emission days (days per year): 300 days per year
Environment factors not influenced by risk management	: Local freshwater dilution factor: 10 Local marine water dilution factor: 100
Other operational conditions of use affecting environmental exposure	: Release fraction to air from process (initial release prior to RMM): 0.05 Release fraction to soil from process (initial release prior to RMM): 0 Release fraction to wastewater from process (initial release prior to RMM): 0.00001
Technical conditions and measures at process level (source) to prevent release	: Common practices vary across sites thus conservative process release estimates used.

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Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil	: If discharging to municipal sewage treatment plant, no on-site wastewater treatment required. If discharging to municipal sewage treatment plant, provide the required on-site wastewater removal efficiency of: ≥ 0 % Risk from environmental exposure is driven by humans via indirect exposure (primarily inhalation). Treat air emission to provide a typical removal efficiency of: 95 % Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of: ≥ 94.6 %
Organisational measures to prevent/limit release from site	: Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to municipal sewage treatment plant	: Assumed domestic sewage treatment plant flow (m ³ /day): 2 000 m ³ /day Estimated substance removal from wastewater via municipal sewage treatment: 95.8 % Not applicable as there is no release to wastewater. Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow] (kg/day): 5 000 000 kg/day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 95.8 %
Conditions and measures related to external treatment of waste for disposal	: Combustion emissions considered in regional exposure assessment. Combustion emissions limited by required exhaust emission controls. External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	: This substance is consumed during use and no waste from the substance is generated.

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

General measures (aspiration)

The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. Do not induce vomiting.

General measures (flammability)

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Avoid all possible sources of ignition (spark or flame). - No smoking. Handle substance within a closed system. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards / EU regulations / national regulations. Review SDS for additional advice..

General measures (skin irritants)

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

General measures (carcinogens)

Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down and flush system prior to equipment break-in or maintenance. Cleaning manufacturing equipment for maintenance purposes. Exposure (Potential): Only allow access to authorised persons. Ensure operatives are trained to minimise exposures. Wear suitable coveralls to prevent exposure to the skin. Wear respiratory protection when its use is identified for certain contributing scenarios. Clear up spills immediately and dispose of waste safely. Ensure safe systems of work or equivalent arrangements are in place to manage risks. Ensure control measures are

regularly inspected and maintained. Consider the need for risk based health surveillance.

Product characteristics	: Liquid
Concentration of substance in mixture or article	: Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	: Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	: Assumes use at not more than 20°C above ambient temperaure.
Conditions and measures related to personal protection, hygiene and health evaluation	
Advice on general occupational hygiene	: Assumes a good basic standard of occupational hygiene is implemented

Contributing scenario controlling worker exposure for 3: Bulk closed unloading

Product characteristics	: Liquid
Concentration of substance in mixture or article	: Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	: Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	: Assumes use at not more than 20°C above ambient temperaure.
Ventilation control measures	: Ensure material transfers are under containment or extract ventilation.
Conditions and measures related to personal protection, hygiene and health evaluation	
Advice on general occupational hygiene	: Assumes a good basic standard of occupational hygiene is implemented

Contributing scenario controlling worker exposure for 4: Drum/batch transfers

Product characteristics	: Liquid
Concentration of substance in mixture or article	: Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	: Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	: Assumes use at not more than 20°C above ambient temperaure.
Ventilation control measures	: Ensure material transfers are under containment or extract ventilation.
Conditions and measures related to personal protection, hygiene and health evaluation	
Advice on general occupational hygiene	: Assumes a good basic standard of occupational hygiene is implemented

Contributing scenario controlling worker exposure for 5: Refuelling

Product characteristics	: Liquid
Concentration of substance in mixture or article	: Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	: Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	: Assumes use at not more than 20°C above ambient temperaure.
Ventilation control measures	: Ensure material transfers are under containment or extract ventilation.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene : Assumes a good basic standard of occupational hygiene is implemented

Contributing scenario controlling worker exposure for 6: Refuelling aircraft

Product characteristics : Liquid

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100 %.

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)

Other operational conditions affecting worker exposure : Assumes use at not more than 20°C above ambient temperature.

Ventilation control measures : Ensure material transfers are under containment or extract ventilation.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene : Assumes a good basic standard of occupational hygiene is implemented

Contributing scenario controlling worker exposure for 7: General exposures (closed systems)

Outdoor

Product characteristics : Liquid

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100 %.

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)

Other operational conditions affecting worker exposure : Assumes use at not more than 20°C above ambient temperature.

Technical conditions and measures at process level (source) to prevent release : Handle substance within a closed system.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene : Assumes a good basic standard of occupational hygiene is implemented

Personal protection : Wear suitable gloves tested to EN374.

Contributing scenario controlling worker exposure for 8: Use as a fuel

Closed systems

Product characteristics : Liquid

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100 %.

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)

Other operational conditions affecting worker exposure : Assumes use at not more than 20°C above ambient temperature.

Technical conditions and measures at process level (source) to prevent release : Handle substance within a closed system.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene : Assumes a good basic standard of occupational hygiene is implemented

Contributing scenario controlling worker exposure for 9: Equipment cleaning and maintenance

Product characteristics	: Liquid
Concentration of substance in mixture or article	: Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	: Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	: Assumes use at not more than 20°C above ambient temperature.
Technical conditions and measures at process level (source) to prevent release	: Drain down system prior to equipment break-in or maintenance. Retain drain-downs in sealed storage pending disposal or for subsequent recycle.
Ventilation control measures	: Provide adequate ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.
Organisational measures to prevent/limit releases, dispersion and exposure	: Clear spills immediately.
Conditions and measures related to personal protection, hygiene and health evaluation	
Advice on general occupational hygiene	: Assumes a good basic standard of occupational hygiene is implemented
Personal protection	: Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.

Contributing scenario controlling worker exposure for 10: Storage

Product characteristics	: Liquid
Concentration of substance in mixture or article	: Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	: Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	: Assumes use at not more than 20°C above ambient temperature.
Technical conditions and measures at process level (source) to prevent release	: Store substance within a closed system.
Ventilation control measures	: Provide adequate ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.
Conditions and measures related to personal protection, hygiene and health evaluation	
Advice on general occupational hygiene	: Assumes a good basic standard of occupational hygiene is implemented

Section 3 - Exposure estimation and reference to its source

Website:	: Not applicable.
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Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	: Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	: ESVOC SPERC 7.12a.v1

Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities

Exposure assessment (human):	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
Exposure estimation and reference to its source	: Not available.

Exposure estimation and reference to its source - Workers: 3: Bulk closed unloading

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 4: Drum/batch transfers

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 5: Refuelling

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 6: Refuelling aircraft

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 7: General exposures (closed systems)

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 8: Use as a fuel

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 9: Equipment cleaning and maintenance

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 10: Storage

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
Exposure estimation and reference to its source : Not available.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment : Further details on scaling and control technologies are provided in SPERC factsheet. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
 Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.
 Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

Health	: Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Available hazard data do not support the need for a DNEL to be established for other health effects. Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Risk management measures are based on qualitative risk characterisation. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
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Additional good practice advice beyond the REACH CSA

Environment	: Not available.
Health	: Not available.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mixture
Code : P000001921
Product name : MOTOR GASOLINE (ADDITIZED) (EU)

Section 1 - Title

Short title of the exposure scenario : Use as a fuel - Professional
List of use descriptors : **Identified use name:** Use as a fuel - Professional
Process Category: PROC01, PROC02, PROC03, PROC08a, PROC08b, PROC16
Sector of end use: SU22
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC09a, ERC09b
Environmental contributing scenarios : **General exposures** - ERC09a, ERC09b
Health Contributing scenarios : **General measures applicable to all activities** - PROC01, PROC02, PROC03, PROC08a, PROC08b, PROC16
General exposures (closed systems) - PROC01, PROC02, PROC03
Bulk closed unloading - PROC08b
Drum/batch transfers - PROC08b
Refuelling - PROC08b
Use as a fuel - PROC16
Equipment maintenance - PROC08a
Storage - PROC02

Processes and activities covered by the exposure scenario	: Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.
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Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures	
Product characteristics	: Predominantly hydrophobic Substance is complex UVCB.
Amounts used	: Annual site tonnage (tonnes/year): 590 tonnes/year Fraction of EU tonnage used in region: 0.1 Fraction of Regional tonnage used locally: 0.0005 Maximum daily site tonnage (kg/day): 1600 kg/day Regional use tonnage (tonnes/year): 1 200 000 tonnes/year
Frequency and duration of use	: Continuous release Emission days (days per year): 365 days per year
Environment factors not influenced by risk management	: Local freshwater dilution factor: 10 Local marine water dilution factor: 100
Other operational conditions of use affecting environmental exposure	: Release fraction to air from wide dispersive use (regional only): 0.01 Release fraction to soil from wide dispersive use (regional only): 0.00001 Release fraction to wastewater from wide dispersive use: 0.00001
Technical conditions and measures at process level (source) to prevent release	: Common practices vary across sites thus conservative process release estimates used.

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Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil	: If discharging to domestic sewage treatment plant, additional onsite wastewater treatment required If discharging to municipal sewage treatment plant, provide the required on-site wastewater removal efficiency of: ≥ 0 % Risk from environmental exposure is driven by freshwater. Treat air emission to provide a typical removal efficiency of: Not applicable. Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of: ≥ 81.8 %
Organisational measures to prevent/limit release from site	: Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to municipal sewage treatment plant	: Assumed domestic sewage treatment plant flow (m ³ /day): 2 000 m ³ /day Estimated substance removal from wastewater via municipal sewage treatment: 95.8 % Not applicable as there is no release to wastewater. Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow] (kg/day): 7 000 kg/day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 95.8 %
Conditions and measures related to external treatment of waste for disposal	: Combustion emissions considered in regional exposure assessment. Combustion emissions limited by required exhaust emission controls. External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	: This substance is consumed during use and no waste from the substance is generated.

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

General measures (aspiration)

The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. Do not induce vomiting.

General measures (flammability)

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Avoid all possible sources of ignition (spark or flame). - No smoking. Handle substance within a closed system. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards / EU regulations / national regulations. Review SDS for additional advice..

General measures (skin irritants)

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

General measures (carcinogens)

Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down and flush system prior to equipment break-in or maintenance. Cleaning manufacturing equipment for maintenance purposes. Exposure (Potential): Only allow access to authorised persons. Ensure operatives are trained to minimise exposures. Wear suitable coveralls to prevent exposure to the skin. Wear respiratory protection when its use is identified for certain contributing scenarios. Clear up spills immediately and dispose of waste safely. Ensure safe systems of work or equivalent arrangements are in place to manage risks. Ensure control measures are regularly inspected and maintained. Consider the need for risk based health surveillance.

Product characteristics	: Liquid
Concentration of substance in mixture or article	: Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	: Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	: Assumes use at not more than 20°C above ambient temperaure.
Conditions and measures related to personal protection, hygiene and health evaluation	
Advice on general occupational hygiene	: Assumes a good basic standard of occupational hygiene is implemented

Contributing scenario controlling worker exposure for 3: General exposures (closed systems)

Outdoor

Product characteristics	: Liquid
Concentration of substance in mixture or article	: Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	: Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	: Assumes use at not more than 20°C above ambient temperaure.
Technical conditions and measures at process level (source) to prevent release	: Handle substance within a closed system.
Conditions and measures related to personal protection, hygiene and health evaluation	
Advice on general occupational hygiene	: Assumes a good basic standard of occupational hygiene is implemented
Personal protection	: Wear suitable gloves tested to EN374.

Contributing scenario controlling worker exposure for 4: Bulk closed unloading

Product characteristics	: Liquid
Concentration of substance in mixture or article	: Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	: Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	: Assumes use at not more than 20°C above ambient temperaure.
Ventilation control measures	: Ensure material transfers are under containment or extract ventilation.
Conditions and measures related to personal protection, hygiene and health evaluation	
Advice on general occupational hygiene	: Assumes a good basic standard of occupational hygiene is implemented

Contributing scenario controlling worker exposure for 5: Drum/batch transfers

Product characteristics	: Liquid
Concentration of substance in mixture or article	: Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	: Covers daily exposures up to 8 hours (unless stated differently)

Other operational conditions affecting worker exposure : Assumes use at not more than 20°C above ambient temperature.

Ventilation control measures : Ensure material transfers are under containment or extract ventilation.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene : Assumes a good basic standard of occupational hygiene is implemented

Contributing scenario controlling worker exposure for 6: Refuelling

Product characteristics : Liquid

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100 %.

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)

Other operational conditions affecting worker exposure : Assumes use at not more than 20°C above ambient temperature.

Ventilation control measures : Ensure material transfers are under containment or extract ventilation.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene : Assumes a good basic standard of occupational hygiene is implemented

Contributing scenario controlling worker exposure for 7: Use as a fuel

Closed systems

Product characteristics : Liquid

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100 %.

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)

Other operational conditions affecting worker exposure : Assumes use at not more than 20°C above ambient temperature.

Technical conditions and measures at process level (source) to prevent release : Handle substance within a closed system.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene : Assumes a good basic standard of occupational hygiene is implemented

Contributing scenario controlling worker exposure for 8: Equipment maintenance

Product characteristics : Liquid

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100 %.

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)

Other operational conditions affecting worker exposure : Assumes use at not more than 20°C above ambient temperature.

Technical conditions and measures at process level (source) to prevent release : Drain down system prior to equipment break-in or maintenance. Retain drain-downs in sealed storage pending disposal or for subsequent recycle.

Ventilation control measures : Provide adequate ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.

Organisational measures to prevent/limit releases, dispersion and exposure : Clear spills immediately.
 Ensure operatives are trained to minimise exposures.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene : Assumes a good basic standard of occupational hygiene is implemented

Personal protection : Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls.

Contributing scenario controlling worker exposure for 9: Storage

Product characteristics : Liquid

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100 %.

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)

Other operational conditions affecting worker exposure : Assumes use at not more than 20°C above ambient tempereare.

Technical conditions and measures at process level (source) to prevent release : Store substance within a closed system.

Ventilation control measures : Provide adequate ventilation. Natural ventilation is from doors, windows etc.
 Controlled ventilation means air is supplied or removed by a powered fan.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene : Assumes a good basic standard of occupational hygiene is implemented

Section 3 - Exposure estimation and reference to its source

Website: : Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment): : Hydrocarbon Block Method (Petrorisk)

Exposure estimation and reference to its source : ESVOC SPERC 9.12b.v1

Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 3: General exposures (closed systems)

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 4: Bulk closed unloading

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 5: Drum/batch transfers

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 6: Refuelling

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 7: Use as a fuel

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 8: Equipment maintenance

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 9: Storage

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Not available.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	<p>: Further details on scaling and control technologies are provided in SPERC factsheet. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.</p> <p>Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.</p> <p>Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.</p>
Health	<p>: Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.</p> <p>Available hazard data do not support the need for a DNEL to be established for other health effects.</p> <p>Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.</p> <p>Risk management measures are based on qualitative risk characterisation.</p> <p>Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.</p>

Additional good practice advice beyond the REACH CSA

Environment	: Not available.
Health	: Not available.

Annex to the extended Safety Data Sheet (eSDS)

Consumer

Identification of the substance or mixture

Product definition : Mixture
Code : P000001921
Product name : MOTOR GASOLINE (ADDITIZED) (EU)

Section 1 - Title

Short title of the exposure scenario : Use as a fuel - Consumer
List of use descriptors : **Identified use name:** Use as a fuel - Consumer
Sector of end use: SU21
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC09a, ERC09b
Market sector by type of chemical product: PC13
Environmental contributing scenarios : **General exposures** - ERC09a, ERC09b
Health Contributing scenarios : **General measures applicable to all activities** - PC13
Liquid: automotive refuelling - PC13
Liquid: Scooter refuelling - PC13
Liquid: garden equipment - use - PC13
Liquid: garden equipment - refuelling - PC13

Processes and activities covered by the exposure scenario : Covers consumer uses in liquid fuels.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics : Predominantly hydrophobic
Substance is complex UVCB.
Amounts used : Annual site tonnage (tonnes/year): 4 600 tonnes/year
Fraction of EU tonnage used in region: 0.1
Fraction of Regional tonnage used locally: 0.0005
Maximum daily site tonnage (kg/day): 12 000 kg/day
Regional use tonnage (tonnes/year): 9 100 000 tonnes/year
Frequency and duration of use : Continuous release
Emission days (days per year): 365 days per year
Environment factors not influenced by risk management : Local freshwater dilution factor: 10
Local marine water dilution factor: 100
Other operational conditions of use affecting environmental exposure : Release fraction to air from wide dispersive use (regional only): 0.01
Release fraction to soil from wide dispersive use (regional only): 0.00001
Release fraction to wastewater from wide dispersive use: 0.00001
Conditions and measures related to municipal sewage treatment plant : Assumed domestic sewage treatment plant flow: 2 000 m³/day
Estimated substance removal from wastewater via municipal sewage treatment: 95.8 %
Not applicable as there is no release to wastewater.
Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow] (kg/day): 54 000 kg/day
Conditions and measures related to external treatment of waste for disposal : Combustion emissions considered in regional exposure assessment.
Combustion emissions limited by required exhaust emission controls.
External treatment and disposal of waste should comply with applicable local and/or national regulations.

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Conditions and measures related to external recovery of waste : This substance is consumed during use and no waste from the substance is generated.

Contributing scenario controlling consumer exposure for 2: General measures applicable to all activities

General measures (aspiration)

The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. Do not induce vomiting. Just a sip of lamp oil - or even sucking the wick of lamps - may lead to life-threatening lung damage. Keep lamps filled with this liquid out of the reach of children.

General measures (flammability)

Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For flammable substances a selection of the following measures need to be implemented to control unintended ignition of flammable substances. These measures are expected to be suitable to prevent minor accidents which might occur during consumer use. Based on the implementation of a selection of handling and storage risk management measures for the identified uses, it is anticipated that there is no immediate concern as the risk should be controlled to an acceptable level. Use only with adequate ventilation. Avoid all possible sources of ignition (spark or flame). - No smoking. Review SDS for additional advice..

Physical state : Liquid

Frequency and duration of use/exposure : Not applicable.

Other given operational conditions affecting consumers exposure : Not applicable.

Conditions and measures related to personal protection and hygiene

Advice on general occupational hygiene : Not applicable.

Contributing scenario controlling consumer exposure for 3: Liquid: automotive refuelling

Concentration of substance in mixture or article : Covers concentrations up to 1 %

Physical state : Liquid

Amounts used : Covers skin contact area up to (cm²): 210 cm²
For each use event, covers use amounts up to (g): 37 500 g
Covers use in room size of (m³): 100 m³

Frequency and duration of use/exposure : Covers use up to: 1 times per day
Covers use up to: 52 days per year
Covers outdoor use.
Covers exposure up to: 0.05 hour(s)

Other given operational conditions affecting consumers exposure : Covers use at ambient temperatures.
Liquid, vapour pressure > 10 kPa at Standard Temperature and Pressure

Conditions and measures related to personal protection and hygiene

Advice on general occupational hygiene : Not applicable.

Contributing scenario controlling consumer exposure for 4: Liquid: Scooter refuelling

Concentration of substance in mixture or article : Covers concentrations up to 1 %

Physical state : Liquid

Amounts used : Covers skin contact area up to (cm²): 210 cm²
For each use event, covers use amounts up to (g): 3 750 g
Covers use in room size of (m³): 100 m³

Frequency and duration of use/exposure : Covers use up to: 1 times per day
 Covers use up to: 52 days per year
 Covers outdoor use.
 Covers exposure up to: 0.03 hour(s)

Other given operational conditions affecting consumers exposure : Covers use at ambient temperatures.
 Liquid, vapour pressure > 10 kPa at Standard Temperature and Pressure

Conditions and measures related to personal protection and hygiene

Advice on general occupational hygiene : Not applicable.

Contributing scenario controlling consumer exposure for 5: Liquid: garden equipment - use

Concentration of substance in mixture or article : Covers concentrations up to: 1 %

Physical state : Liquid

Amounts used : For each use event, covers use amounts up to (g): 750 g
 Covers use in room size of (m³): 100 m³
 Covers skin contact area up to (cm²): 420 cm²

Frequency and duration of use/exposure : Covers use up to: 1 times per day
 Covers use up to: 26 days per year
 Covers exposure up to: 2 hour(s)
 Covers outdoor use.

Other given operational conditions affecting consumers exposure : Covers use at ambient temperatures.
 Liquid, vapour pressure > 10 kPa at Standard Temperature and Pressure

Conditions and measures related to personal protection and hygiene

Advice on general occupational hygiene : Not applicable.

Contributing scenario controlling consumer exposure for 6: Liquid: garden equipment - refuelling

Concentration of substance in mixture or article : Covers concentrations up to: 1 %

Physical state : Liquid

Amounts used : Covers skin contact area up to (cm²): 420 cm²
 For each use event, covers use amounts up to (g): 750 g
 Covers use in room size of (m³): 34 m³

Frequency and duration of use/exposure : Covers use up to: 1 times per day
 Covers use up to: 26 days per year
 Covers use in a one car garage (34 m³) under typical ventilation. 1.5 ach (air changes per hour)
 Covers exposure up to: 0.03 hour(s)

Other given operational conditions affecting consumers exposure : Covers use at ambient temperatures.
 Liquid, vapour pressure > 10 kPa at Standard Temperature and Pressure

Conditions and measures related to personal protection and hygiene

Advice on general occupational hygiene : Not applicable.

Section 3 - Exposure estimation and reference to its source

Website: : Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment): : Hydrocarbon Block Method (Petrorisk)

Exposure estimation and reference to its source : ESVOC SPERC 9.12c.v1

Exposure estimation and reference to its source - Consumers: 2: General measures applicable to all activities

Exposure assessment (human): : ECETOC TRA, consumer
Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Consumers: 3: Liquid: automotive refuelling

Exposure assessment (human): : ECETOC TRA, consumer
Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Consumers: 4: Liquid: Scooter refuelling

Exposure assessment (human): : ECETOC TRA, consumer
Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Consumers: 5: Liquid: garden equipment - use

Exposure assessment (human): : ECETOC TRA, consumer
Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Consumers: 6: Liquid: garden equipment - refuelling

Exposure assessment (human): : ECETOC TRA, consumer
Exposure estimation and reference to its source : Not available.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment : Further details on scaling and control technologies are provided in SPERC factsheet. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Health : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.
 Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Additional good practice advice beyond the REACH CSA

Environment : Not available.
Health : Not available.

MOTOR GASOLINE (ADDITIZED)