

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

Petroleum ether (40-60)

Version number: 2
Issued: 2025-02-26
Replaces SDS: 2022-08-22



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

1.1. Product identifier

Trade name

Petroleum ether (40-60)

CAS number

8032-32-4

EC number

232-453-7

Synonyms

Ligroine

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

Relevant identified uses

Research and development. Laboratory Chemicals. Manufacture of substances.

Not suitable for use in

Not suitable for human consumption or veterinary purposes.

1.3. Details of the supplier of the safety data sheet

Supplier

Molekula Group

Address

Molekula Ltd,
Lingfield Way, Darlington,
County Durham,
DL1 4XX
United Kingdom

Telephone

+44 (0) 3302 000 333

Email

info@molekula.com

Web site

www.molekula.com

Contact person

Kevin Banks

Email

+44 (0) 7769276927

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1.4. Emergency telephone number

Poison center/Additional emergency number

0344 892 0111 - National Poisons Information Service (Newcastle Centre)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Classification

Carcinogenicity, hazard category 1B

Hazardous to the aquatic environment — Chronic hazard category 2

Skin irritation, hazard category 2

Germ cell mutagenicity, hazard category 1B

Aspiration hazard, hazard category 1

Flammable liquids, hazard category 2

Hazard statements

H225, H304, H315, H340, H350, H411

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms



Signal word

Danger

Hazard statements

H225 Highly flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H340 May cause genetic defects.

H350 May cause cancer.

H411 Toxic to aquatic life with long lasting effects.

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Precautionary statements

- P201 Obtain special instructions before use.
 P202 Do not handle until all safety precautions have been read and understood.
 P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P260 Do not breathe dust/fumes/gas/mist/vapours/spray.
 P262 Do not get in eyes, on skin, or on clothing.
 P264 Wash skin thoroughly after handling.
 P273 Avoid release to the environment.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
 P302 + P352 IF ON SKIN: Wash with plenty of water/.
 P304 + P312 IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell.
 P308 + P313 IF exposed or concerned: Get medical advice/attention.
 P321 Specific treatment (see on this label).
 P332 + P313 If skin irritation occurs: Get medical advice/attention.
 P362 + P364 Take off contaminated clothing and wash it before reuse.
 P391 Collect spillage.
 P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
 P405 Store locked up.
 P501 Dispose of contents/container to local regulations.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical name	CAS No. EC No. REACH No. Index No.	Concentration	Classification	H-phrase M factor acute M factor chronic	Note
Ligroine: 40-60	8032-32-4 232-453-7 01-2119474695-24 649-263-00-9	100%	Flam. Liq. 2, Asp. Tox. 1, Skin Irrit. 2, Muta. 1B, Carc. 1B, Aquatic Chronic 2	H225, H304, H315, H340, H350, H411 - -	-

Molecular weight

N/A

Substance additional information

For the complete text of H- / EUH-statements mentioned in this section, see section 16.

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SECTION 4: First aid measures

4.1. Description of first aid measures

Get medical attention if any discomfort continues. Show this Safety Data Sheet (SDS) to medical personnel.

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing. In case of persistent throat irritation or coughing: Seek medical attention and bring these instructions. Risk of aspiration upon vomiting

Skin contact

IF ON SKIN: Wash with plenty of soap and water. Continue to rinse for at least 15 minutes. Get medical advice/attention if you feel unwell.

Eye contact

Remove contact lenses if present. Rinse eyes with water. Continue to rinse for at least 15 minutes and seek medical attention.

Ingestion

Rinse mouth. Do NOT induce vomiting. Get medical advice/attention if you feel unwell. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Information for doctors

No data available.

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

The severity of the symptoms described will vary dependant of the concentration and the length of exposure.

Inhalation

Single exposure may cause the following adverse effects: Upper respiratory irritation. Difficulty in breathing.

Skin contact

Single exposure may cause the following adverse effects: Severe skin irritation.

Eye contact

May cause temporary eye irritation.

Ingestion

Single exposure may cause the following adverse effects: Severe abdominal pain. Nausea, vomiting.

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

Treat symptomatically. No special treatment requirement.

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Use foam, carbon dioxide or dry powder to extinguish.

5.2. Special hazards arising from the substance or mixture

Specific hazards: Flammable liquid and vapour. Combustible.

Development of hazardous combustion gases or vapours possible in the event of fire.

Carbon monoxide (CO). Carbon dioxide (CO₂).

Containers can burst violently when heated, due to excess pressure build-up.

Vapours are heavier than air and may travel along the floor and in the bottom of containers.

Vapours may form explosive mixture with air at room temperature.

Pay attention to flashback.

5.3. Advice for firefighters

Special protective equipment for fire-fighters

Evacuate area. Avoid breathing gas, fume, vapours or spray. Prevent skin contact by maintaining a safe distance and by wearing suitable protective equipment/ clothing. Cool containers exposed to heat with water spray and remove container, if no risk is involved.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid inhalation of vapours and spray mist and contact with skin and eyes. For personal protection, see section 8. Provide adequate ventilation. Remove sources of ignition. Beware of the explosion danger. Take action to prevent static discharges.

6.2. Environmental precautions

Avoid discharge into drains, water courses or onto the ground. Risk of explosion.

6.3. Methods and material for containment and cleaning up

Collect with absorbent, non-combustible material into suitable containers. Remove sources of ignition. Beware of the explosion danger. Use spark-proof tools and explosion-proof equipment.

6.4. Reference to other sections

For personal protection, see section 8. For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Preventive handling precautions

For precautions see section 2.2. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take action to prevent static discharges. Use spark-proof tools and explosion-proof equipment. Work under hood. Wear protective clothing, gloves, eye and face protection. Avoid contact with skin and eyes. Avoid ingestion and inhalation.

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General hygiene

Observe good chemical hygiene practices. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove contaminated clothing and launder thoroughly before re-use. Wash skin thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Store in a dry place. Store in a closed container. Store at ambient temperature.

Storage class 3: FLAMMABLE LIQUIDS

7.3. Specific end use(s)

No specific usage precautions noted.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits

TWA: 8 hours. 250ppm. 1000mg/m³.

DNEL/DMEL

Product/Substance name (CAS No./EC No.)	Type	Exposure	Value	Population	Effects
Ligroine: 40-60 (8032-32-4/232-453-7)	DNEL	Chronic (long term) Inhalation	1.9 mg/m ³	Workers	Systemic
Ligroine: 40-60 (8032-32-4/232-453-7)	DNEL	Acute (short term) Inhalation	1286.4 mg/m ³	Workers	Systemic
Ligroine: 40-60 (8032-32-4/232-453-7)	DNEL	Chronic (long term) Inhalation	837.5 mg/m ³	Workers	Local
Ligroine: 40-60 (8032-32-4/232-453-7)	DNEL	Acute (short term) Inhalation	1066.67 mg/m ³	Workers	Local
Ligroine: 40-60 (8032-32-4/232-453-7)	DNEL	Chronic (long term) Inhalation	410 µg/m ³	Consumers	Systemic
Ligroine: 40-60 (8032-32-4/232-453-7)	DNEL	Acute (short term) Inhalation	1152 mg/m ³	Consumers	Systemic
Ligroine: 40-60 (8032-32-4/232-453-7)	DNEL	Chronic (long term) Inhalation	178.57 mg/m ³	Consumers	Local
Ligroine: 40-60 (8032-32-4/232-453-7)	DNEL	Acute (short term) Inhalation	640 mg/m ³	Consumers	Local

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8.2. Exposure controls

Personal Protective Equipment Symbols



Eye / face protection

Wear eye protection.

Hand protection

Wear protective gloves.

Recommended gloves: Nitrile.

Glove Thickness: 0.11mm

Breakthrough time: 8 hours

Always inspect gloves before use. If signs of wear and tear are noticed then the gloves should be replaced.

No specific hygiene procedures noted, but good personal hygiene practices are always advisable, especially when working with chemicals. Wash contaminated skin thoroughly after handling.

Other skin protection

Wash skin thoroughly after handling.

Respiratory protection

Provide adequate ventilation. If ventilation is insufficient, suitable respiratory protection must be provided.

Environmental exposure controls

Avoid discharge into drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state

Liquid

Colour

Colourless.

Odour

Petroleum.

Melting point / freezing point

No data available

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Boiling point or initial boiling point and boiling range

40 - 60 °C

Method

Lit.

Flammability

Flammable liquid and vapour.

Lower and upper explosion limit

No data available

Flash point

-40 °C

Method

Lit.

Auto-ignition temperature

No data available

Decomposition temperature

No data available

pH

No data available

Kinematic viscosity

No data available

Solubility

No data available

Partition coefficient n-octanol/water

No data available

Vapour pressure

No data available

Density and/or relative density

0.66 g/cm³

Method

Lit.

Relative vapour density

No data available

Explosive properties

Vapours may form explosive mixtures with air.

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Particle characteristics

No data available

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Risk of explosion if heated under confinement.
 Vapours may form explosive mixtures with air.

10.2. Chemical stability

Stable under normal temperature conditions. Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions

No data available

10.4. Conditions to avoid

Heat, sparks, flames.

10.5. Incompatible materials

Strong oxidising agents.

10.6. Hazardous decomposition products

See section 5.

SECTION 11: Toxicological information

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

Acute toxicity

Based on available data, the classification criteria are not met.

Product / Substance name CAS / EC no.	Dose descriptor	Value / Dose	Exposure route	Duration of exposure	Test animals
Ligroine: 40-60 8032-32-4 / 232-453-7	LD50	>5000 mg/kg	Oral	-	Rat
Ligroine: 40-60 8032-32-4 / 232-453-7	LD50	>3160 mg/kg	Dermal	-	Rabbit
Ligroine: 40-60 8032-32-4 / 232-453-7	LC50	73680 ppm	Inhalation.	4 hours	Rat

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Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Product / Substance name CAS / EC no.	Result
Ligroine: 40-60 8032-32-4 / 232-453-7	Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin resulting in desiccation of the skin.

Serious eye damage/irritation

Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation

Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Carcinogenicity

Based on available data, the classification criteria are not met.

Reproductive toxicity

Based on available data, the classification criteria are not met.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

11.2. Information on other hazards

No data available

SECTION 12: Ecological information

12.1. Toxicity

Acute fish toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
Ligroine: 40-60	LC50	8.41 mg/l	96 hours	Onchorhynchus mykiss

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Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
8032-32-4 / 232-453-7				(Rainbow trout)

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

No data available

12.6. Endocrine disrupting properties

This product does not contain any known or suspected endocrine disruptors.

12.7. Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal considerations

Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

14.1. UN number

1268

14.2. UN proper shipping name

ADR / RID / ADN proper shipping name

PETROLEUM DISTILLATES, N.O.S. (vapour pressure at 50 °C not more than 110 kPa) (Petroleum ether 40-60)

IMDG proper shipping name

PETROLEUM DISTILLATES, N.O.S. (Petroleum ether 40-60)

IATA proper shipping name

Petroleum distillates, n.o.s. (Petroleum ether 40-60)

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14.3. Transport hazard class(es)

Label

ADR/RID/ADN



3 Environmental hazard

IMDG



3 Environmental hazard

IATA



3 Environmental hazard

ADR / RID Class

3

ADR / RID Classification code

F1

ADR / RID hazard identification number

33

IMDG Class

3

IATA Class

3

ADN Class

3

ADN Class Code

F1

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14.4. Packing group

ADR / RID / ADN: II
 IMDG: II
 IATA: II

14.5. Environmental hazards

Not applicable

14.6. Special precautions for user

Special precautions for user

Tunnel restriction code: D/E
 Transport category: 2

IMDG EmS

F-E, S-E

14.7. Maritime transport in bulk according to IMO instruments

IBC Instruction: IBC02

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

Other regulations, limitations and legal regulations

Directive 94/33/EC - The protection of young people at work.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Phrase meaning

Carc. 1B - Carcinogenicity, hazard category 1B
 Aquatic Chronic 2 - Hazardous to the aquatic environment — Chronic hazard category 2
 Skin Irrit. 2 - Skin irritation, hazard category 2
 Muta. 1B - Germ cell mutagenicity, hazard category 1B
 Asp. Tox. 1 - Aspiration hazard, hazard category 1
 Flam. Liq. 2 - Flammable liquids, hazard category 2
 H225 Highly flammable liquid and vapour.
 H304 May be fatal if swallowed and enters airways.
 H315 Causes skin irritation.
 H340 May cause genetic defects.
 H350 May cause cancer.
 H411 Toxic to aquatic life with long lasting effects.