

Safety data sheet
according to 1907/2006/EC, Article 31 Commission
regulation (EU) 2020/878

Printing date 11.04.2023

Version number 10.0 (replaces version 9.0)

Revision: 11.04.2023

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

1.1 Product identifier

• **Trade name:** Methyl isobutyl ketone, EssentQ®

• **Article number:** ME0490

• **CAS Number:**
108-10-1

• **EC number:**
203-550-1

• **Index number:**
606-004-00-4

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

No further relevant information available.

• **Application of the substance / the preparation:** Laboratory reagent

1.3 Details of the supplier of the safety data sheet

• **Manufacturer/Supplier:**

Scharlab, S.L.

C/Gato Pérez, 33. Pol.Ind. Mas d'en Cisa

08181 Sentmenat (Barcelona) SPAIN

Tel: (+34) 93 745 64 00 - FAX: (+34) 93 715 27 65

email: scharlab@scharlab.com

Internet Web Site: www.scharlab.com

• **Regional representation:**

Scharlab, S.L.

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Internet Web Site: www.scharlab.com

• **Further information obtainable from:** Technical Department

1.4 Emergency telephone number:

Please contact the regional Scharlab distributor/dealer in your country

During normal opening times: Scharlab, S.L. (+34) 93 715 18 11

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

• **Classification according to Regulation (EC) No 1272/2008**



flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



health hazard

Carc. 2 H351 Suspected of causing cancer.



Acute Tox. 4 H332 Harmful if inhaled.

Eye Irrit. 2 H319 Causes serious eye irritation.

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STOT SE 3 H336 May cause drowsiness or dizziness.

2.2 Label elements**Labelling according to Regulation (EC) No 1272/2008**

The substance is classified and labelled according to the GB CLP regulation.

Hazard pictograms

GHS02 GHS07 GHS08

Signal word Danger**Hazard statements**

H225 Highly flammable liquid and vapour.

H332 Harmful if inhaled.

H319 Causes serious eye irritation.

H351 Suspected of causing cancer.

H336 May cause drowsiness or dizziness.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P370+P378 In case of fire: Use CO₂, powder or water spray to extinguish.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Additional information:

EUH066 Repeated exposure may cause skin dryness or cracking.

2.3 Other hazards**Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**SECTION 3: Composition/information on ingredients****3.1 Substances****CAS No. Description**

108-10-1 4-methylpentan-2-one

Identification number(s)**EC number:** 203-550-1**Index number:** 606-004-00-4**SECTION 4: First aid measures****4.1 Description of first aid measures****General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Immediately remove any clothing soiled by the product.

Do not leave affected persons unattended.

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- **After inhalation:**
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**
Generally the product does not irritate the skin.
Immediately rinse with water.
Wash contaminated clothing before reuse.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:**
Do not induce vomiting, danger of perforation.
Never give anything by mouth to an unconscious person.
Rinse out mouth and then drink plenty of water.
If the affected person vomits, keep the head down so that the vomit does not enter the lungs.
Seek medical treatment.
- **4.2 Most important symptoms and effects, both acute and delayed**
The main symptoms are described for the different cases of contact: skin, eyes, inhalation and ingestion.
- **4.3 Indication of any immediate medical attention and special treatment needed**
Treat symptomatically.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture**
Vapours may create explosive mixtures with air.
Vapours are heavier than air and spread along the ground.
Formation of toxic gases is possible during heating or in case of fire.
Fire can cause the evolution of:
Carbon monoxide (CO)
Organic decomposition products.
- **5.3 Advice for firefighters**
- **Protective equipment:**
Respiratory protection and full chemical protective clothing must be provided for extinguishing work.
Cool exposed containers by water spray or water mist.
- **Additional information**
Collect contaminated fire fighting water separately. It must not enter the sewage system.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Eliminate all sources of ignition.
Keep away from ignition sources.
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.

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- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Keep receptacles tightly sealed.
Keep away from heat and direct sunlight.
Ensure good ventilation/exhaustion at the workplace.
Do not eat, drink or smoke during use.
Wash hands after handling.
- **Information about fire - and explosion protection:**
Use explosion-proof apparatus / fittings and spark-proof tools.
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store in a cool, dry and well-ventilated place.
Store only in unopened original receptacles.
Suitable material for receptacles and pipes: steel or stainless steel.
Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
See product's label for recommended storage temperature.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**
108-10-1 4-methylpentan-2-one
WEL Short-term value: 416 mg/m³, 100 ppm
Long-term value: 208 mg/m³, 50 ppm
Sk, BMGV
- **DNELs**
DNEL consumer, prolonged. Systematic effects:
 - Inhalative: 14.7 mg/m³
 - Dermic: 4.2 mg/kg body weight
 - Oral: 4.2 mg/kg body weightDNEL for workers, cronic. Systematic effects:
 - Inhalative: 83 mg/m³
 - Dermic: 11.8 mg/kg body weightDNEL consumer, acute. Local effects: Inhalative - 155.2 mg/m³
DNEL worker, acute. Local effects: Inhalative - 208 mg/m³

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- **PNECs**

PNEC (Fresh water): 0.6 mg/L

PNEC (Sea water): 0.06 mg/L

PNEC (Freshwater sediments): 8.27 mg/kg

PNEC (Seawater sediments): 0.83 mg/kg

PNEC (Soil): 1.3 mg/kg

PNEC (Residual water depuration system): 27.5 mg/l

- **Ingredients with biological limit values:**

- **108-10-1 4-methylpentan-2-one**

BMGV 20 µmol/L

Medium: urine

Sampling time: post shift

Parameter: 4-methylpentan-2-one

- **Additional information:** The lists valid during the making were used as basis.

- **8.2 Exposure controls**

- **Appropriate engineering controls** No further data; see item 7.

- **Individual protection measures, such as personal protective equipment**

- **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

- **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

- **Hand protection**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye/face protection**



Tightly sealed goggles

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**

- **General Information**

- **Physical state**

Fluid

- **Colour:**

Colourless

- **Odour:**

Characteristic

- **Odour threshold:**

Not determined.

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• Melting point/freezing point:	-83.5 °C
• Boiling point or initial boiling point and boiling range	114-117 °C
• Flammability	Highly flammable.
• Lower and upper explosion limit	
• Lower:	1.7 Vol %
• Upper:	9 Vol %
• Flash point:	14 °C
• Ignition temperature:	460 °C
• Decomposition temperature:	Not determined.
• pH	11-12
• Viscosity:	
• Kinematic viscosity	Not determined.
• Dynamic at 20 °C:	0.59 mPas
• Solubility	
• water at 20 °C:	19 g/l
• Partition coefficient n-octanol/water (log value)	Not determined.
• Vapour pressure at 20 °C:	12 hPa
• Density and/or relative density	
• Density at 20 °C:	0.801 g/cm³
• Relative density	Not determined.
• Vapour density	Not determined.
• 9.2 Other information	
• Appearance:	
• Form:	Fluid
• Important information on protection of health and environment, and on safety.	
• Auto-ignition temperature:	Not determined.
• Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
• Molecular weight	100.16 g/mol
• Change in condition	
• Evaporation rate	Not determined.
• Information with regard to physical hazard classes	
• Explosives	Void
• Flammable gases	Void
• Aerosols	Void
• Oxidising gases	Void
• Gases under pressure	Void
• Flammable liquids	Highly flammable liquid and vapour.
• Flammable solids	Void
• Self-reactive substances and mixtures	Void
• Pyrophoric liquids	Void
• Pyrophoric solids	Void
• Self-heating substances and mixtures	Void
• Substances and mixtures, which emit flammable gases in contact with water	Void
• Oxidising liquids	Void
• Oxidising solids	Void
• Organic peroxides	Void
• Corrosive to metals	Void

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Trade name: Methyl isobutyl ketone, EssentQ®· **Desensitised explosives**

Void

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SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
Can be distilled without decomposing at normal pressure.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** Heat, flame and sparks
- **10.5 Incompatible materials:**
Strong oxidising agents.
Strong alkalis
- **10.6 Hazardous decomposition products:** Carbon oxides

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Harmful if inhaled.
- **LD/LC50 values relevant for classification:**

Oral	LD50	2,100 mg/kg (rat)
Dermal	LD50	16,000 mg/kg (rab)
Inhalative	LC50/4 h	11 mg/l (ATE)
		8.3-16.6 mg/l (rat)
- **Serious eye damage/irritation** Causes serious eye irritation.
- **Carcinogenicity** Suspected of causing cancer.
- **STOT-single exposure** May cause drowsiness or dizziness.
- **11.2 Information on other hazards**
- **Endocrine disrupting properties** Substance is not listed.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:**
Toxicity to fish
CL50 - Danio rerio (pez zebra) - >179 mg/l (96h)
LC50 - Pimephales promelas (Fathead piscardo) - 505-780 mg/L - 96 h
Toxicity to daphnia and other aquatic invertebrates
EC50 - Daphnia magna (large sea flea) - >200 mg/L - 48 h
NOEC - Daphnia magna (large sea flea) - 30-35 mg/L - 21h
Toxicity to bacteria
EC50 - Pseudomonas putida - 275 mg/L - 16 h
- **12.2 Persistence and degradability**
Easily biodegradable
Rapid photochemical oxidation in air.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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- **12.6 Endocrine disrupting properties**

The product does not contain substances with endocrine disrupting properties.

- **12.7 Other adverse effects**

- **Additional ecological information:**

- **General notes:**

Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably reduced, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**

- **Recommendation**

Must be specially treated adhering to official regulations.

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

- **Uncleaned packaging:**

- **Recommendation:**

Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.

Packagings that may not be cleansed are to be disposed of in the same manner as the product.

SECTION 14: Transport information

- **14.1 UN number or ID number**

- **ADR, IMDG, IATA**

UN1245

- **14.2 UN proper shipping name**

- **ADR**

1245 METHYL ISOBUTYL KETONE

- **IMDG, IATA**

METHYL ISOBUTYL KETONE

- **14.3 Transport hazard class(es)**

- **ADR, IMDG, IATA**



- **Class**

3 Flammable liquids.

- **Label**

3

- **14.4 Packing group**

- **ADR, IMDG, IATA**

II

- **14.5 Environmental hazards:**

- **Marine pollutant:**

No

- **14.6 Special precautions for user**

Warning: Flammable liquids.

- **Hazard identification number (Kemler code):**

33

- **EMS Number:**

3-07

- **Stowage Category**

B

- **14.7 Maritime transport in bulk according to IMO instruments**

Not applicable.

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• Transport/Additional information:

- | | |
|----------------------------------|---------------------------------------|
| • ADR | 1L |
| • Limited quantities (LQ) | 2 |
| • Transport category | D/E |
| • Tunnel restriction code | UN 1245 METHYL ISOBUTYL KETONE, 3, II |
| • UN "Model Regulation": | |

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I -**
- **Seveso category** P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Product Safety Department
- **Contact:** msds@scharlab.com
- **Abbreviations and acronyms:**
 - RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 - ICAO: International Civil Aviation Organisation
 - ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
 - IMDG: International Maritime Code for Dangerous Goods
 - IATA: International Air Transport Association
 - GHS: Globally Harmonised System of Classification and Labelling of Chemicals
 - EINECS: European Inventory of Existing Commercial Chemical Substances
 - CAS: Chemical Abstracts Service (division of the American Chemical Society)
 - DNEL: Derived No-Effect Level (UK REACH)
 - PNEC: Predicted No-Effect Concentration (UK REACH)
 - LC50: Lethal concentration, 50 percent
 - LD50: Lethal dose, 50 percent
 - PBT: Persistent, Bioaccumulative and Toxic
 - vPvB: very Persistent and very Bioaccumulative
 - Flam. Liq. 2: Flammable liquids – Category 2
 - Acute Tox. 4: Acute toxicity – Category 4
 - Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
 - Carc. 2: Carcinogenicity – Category 2
 - STOT SE 3: Specific target organ toxicity (single exposure) – Category 3