

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

Printing date 28.03.2023

Version number 10.0 (replaces version 9.0)

Revision: 28.03.2023

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

1.1 Product identifier

• **Trade name:** Ethyl methyl ketone, for analysis, ExpertQ®, ACS, Reag. Ph Eur

• **Article number:** ME0457

• **CAS Number:**

78-93-3

• **EC number:**

201-159-0

• **Index number:**

606-002-00-3

• **Registration number** 01-2119457290-43-XXXX

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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• **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.



Eye Irrit. 2 H319 Causes serious eye irritation.

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.

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Hazard pictograms

GHS02 GHS07

Signal word Danger**Hazard statements**

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

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**

78-93-3 butanone

Identification number(s)**EC number:** 201-159-0**Index number:** 606-002-00-3**SECTION 4: First aid measures****4.1 Description of first aid measures****General information:**

Immediately remove any clothing soiled by the product.

Take affected persons out into the fresh air.

After inhalation:

Supply fresh air; consult doctor in case of complaints.

In case of unconsciousness place patient stably in side position for transportation.

In severe cases such as cardiorespiratory arrest, artificial respiration techniques such as mouth-to-mouth resuscitation, cardiac massage, oxygen supply, etc. will be applied.

After skin contact:

Generally the product does not irritate the skin.

Immediately wash with water and soap and rinse thoroughly.

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- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:**
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.
If symptoms persist consult doctor.
- **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **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.
Under certain fire conditions, traces of other toxic gases cannot be excluded.
Carbon monoxide (CO)
Organic decomposition products.
Vapours are heavier than air and spread along the ground.
- **5.3 Advice for firefighters**
- **Protective equipment:**
Cool exposed containers with water spray or mist.
Respiratory protection and full chemical protective clothing must be provided for extinguishing work.
- **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**
Keep away from ignition sources.
Avoid contact with skin, eyes and clothing.
Use respiratory protective device against the effects of fumes/dust/aerosol.
Ensure adequate ventilation
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
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.

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SECTION 7: Handling and storage

• 7.1 Precautions for safe handling

Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).
Earthing/equipotential bonding of the container and receiving equipment.
Only use tools that do not produce sparks.
Take precautionary measures against electrostatic discharge.
Do not eat, drink or smoke during use.
Wash hands after handling.

• Information about fire - and explosion protection:

Fumes can combine with air to form an explosive mixture.
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, well-ventilated place.
Store only in unopened original receptacles.
Store in a cool location.

• Information about storage in one common storage facility: Store away from foodstuffs.

• Further information about storage conditions:

Store in a cool place. Heat will increase pressure and may lead to the receptacle bursting.
Avoid sources of heat, radiation, static electricity and contact with food.
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:

78-93-3 butanone

WEL Short-term value: 899 mg/m³, 300 ppm
Long-term value: 600 mg/m³, 200 ppm
Sk, BMGV

• DNELs

DNEL consumer, prolonged. Systematic effects:

- Inhalative: 106 mg/m³
- Dermic: 412 mg/kg body weight
- Oral: 31 mg/kg body weight

DNEL for workers, cronic. Systematic effects:

- Inhalative: 600 mg/m³
- Dermic: 1161 mg/kg body weight

• PNECs

PNEC (Fresh water): 55.8 mg/L
PNEC (Sea water): 55.8 mg/L
PNEC (Freshwater sediments): 284.7 mg/kg
PNEC (Seawater sediments): 284.7 mg/kg
PNEC (Soil): 22.5 mg/kg
PNEC (Residual water depuration system): 709 mg/l

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Ingredients with biological limit values:**78-93-3 butanone**

BMGV 70 µmol/L

Medium: urine

Sampling time: post shift

Parameter: butan-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:** Not required.

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:

Solvent-like

Odour threshold:

Not determined.

Melting point/freezing point:

-86.3 °C

Boiling point or initial boiling point and boiling range

79-80.5 °C

Flammability

Highly flammable.

Lower and upper explosion limit**Lower:**

1.8 Vol %

Upper:

11.5 Vol %

Flash point:

-4 °C

Ignition temperature:

514 °C

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• Decomposition temperature:	Not determined.
• pH	11-12
• Viscosity:	
• Kinematic viscosity	Not determined.
• Dynamic at 20 °C:	0.4 mPas
• Solubility	
• water at 20 °C:	290 g/l
• Partition coefficient n-octanol/water (log value)	Not determined.
• Vapour pressure at 20 °C:	101 hPa
• Density and/or relative density	
• Density at 20 °C:	0.804-0.807 g/cm ³
• 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	72.11 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
• Desensitised explosives	Void

SECTION 10: Stability and reactivity

- **10.1 Reactivity** Stable under normal conditions. No decomposition if used according to regulations.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
To be avoided: Heat, flame and sparks.
Light sensitivity.

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Air-sensitive.

10.3 Possibility of hazardous reactions

Forms peroxides.

Forms explosive gas mixture with air.

Reacts with oxidising agents.

10.4 Conditions to avoid

Heat, flame and sparks

Electrostatic charges

Exposure to light.

10.5 Incompatible materials:

Strong acids

Strong bases

Strong oxidising agents.

10.6 Hazardous decomposition products: Carbon monoxide and carbon dioxide**SECTION 11: Toxicological information****11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute toxicity****LD/LC50 values relevant for classification:**

Oral LD50 3,300 mg/kg (rat)

Dermal LD50 5,000 mg/kg (rabbit)

Inhalative LC50/4 h 34.5 mg/l (rat)

Skin corrosion/irritation Drying-out effect resulting in rough and chapped skin.**Serious eye damage/irritation**

Eyes - Rabbit

Resul: Irritating to eyes.

Causes serious eye irritation.

Respiratory or skin sensitisation

Maximisation test - Guinea pig

Result: negative

Germ cell mutagenicity

Ames test

Result: negative

Mutagenicity (mammal cell test): chromosome aberration.

Result: negative

STOT-single exposure May cause drowsiness or dizziness.**11.2 Information on other hazards****Endocrine disrupting properties** List II**SECTION 12: Ecological information****12.1 Toxicity****Aquatic toxicity:**

LC50 - Pimephales promelas (Fathead piscardo) - 3220 mg/L - 96 h

Toxicity to daphnia and other aquatic invertebrates

EC50 static test - Ceriodaphnia (Water flea) - 5091 mg/L - 48 h

Toxicity to algae

NOEC - Scenedesmus quadricauda (Green algae) - >4300 mg/L - 7 d

Toxicity to bacteria

EC50 - Pseudomonas putida - 1150 mg/L - 16 h

12.2 Persistence and degradability

Biodegradability

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Easily biodegradable

Theoretical oxygen demand - 2440 mg/g

Remarks: (Literature)

Ratio BOD/ThBOD: 76 % (IUCLID)

Ratio COD/ThBOD: 95 % (Lit.)

12.3 Bioaccumulative potential

Partition coefficient n-octanol/water:

log Pow: 0.29 (experimental)

12.4 Mobility in soil No further relevant information available.**12.5 Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**12.6 Endocrine disrupting properties**

For information on endocrine disrupting properties see section 11.

12.7 Other adverse effects

Additional ecological information

Hazard for drinking water supplies.

Discharge into the environment must be avoided.

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

Uncleaned packaging:**Recommendation:** Disposal must be made according to official regulations.**SECTION 14: Transport information****14.1 UN number or ID number****ADR, IMDG, IATA**

UN1193

14.2 UN proper shipping name**ADR**

1193 ETHYL METHYL KETONE (METHYL ETHYL KETONE)

IMDG, IATA

ETHYL METHYL KETONE (METHYL ETHYL KETONE)

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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:

3-06

Stowage Category

B

14.7 Maritime transport in bulk according to IMO instruments

Not applicable.

Transport/Additional information:**ADR****Limited quantities (LQ)**

1L

Transport category

2

Tunnel restriction code

D/E

UN "Model Regulation":

UN 1193 ETHYL METHYL KETONE (METHYL ETHYL KETONE), 3, II

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

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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

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3