

# SAFETY DATA SHEET Methyl ethyl ketone (MEK)

SDS conform REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), Annex II - EU

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

Date issued 19.08.2014

1.1. Product identifier

Product name Methyl ethyl ketone (MEK)
Chemical name Methyl ethyl ketone

Synonyms butan-2-on, 2-butanon, Ethyl methyl ketone

REACH Reg. No. 01-2119457290-43-0000

CAS no. 78-93-3
EC no. 201-159-0
Index no. 606-002-00-3
Article no. 18000000

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

Use of the substance/preparation For the preparation of paints and as a solvent.

## 1.3. Details of the supplier of the safety data sheet

#### Manufacturer

Company name Fred Holmberg & Co AB

Office address Geijersgatan 8
Postal address Box 60056
Postcode S-216 10
City Limhamn
Country Sweden

Tel +46 (0)40 15 79 20 Fax +46 (0)40 16 22 95 E-mail info@holmberg.se

Website http://www.holmberg.se/en/

## 1.4. Emergency telephone number

Emergency telephone 112 (Europe)

## **SECTION 2: Hazards identification**

## 2.1. Classification of substance or mixture

Classification according to F; R11 67/548/EEC or 1999/45/EC Xi; R36 R66,R67

Classification according to Flam. Liq. 2;H225; Regulation (EC) No 1272/2008 Eye Irrit. 2;H319; [CLP/GHS] STOT SE3:H336;

#### 2.2. Label elements

## Hazard Pictograms (CLP)





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/sparks/open flames/hot surfaces. – No smoking.

P233 Keep container tightly closed.

P243 Take precautionary measures against static discharge.

P280 Wear protective gloves/protective clothing/eye protection/face protection. P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or

doctor/physician.

P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all

contaminated clothing. Rinse skin with water/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.

P403 + P235 Store in a well-ventilated place. Keep cool.

Supplemental label information

EUH 066 Repeated exposure may cause skin dryness or cracking.

2.3. Other hazards

Other hazards Not known.

## **SECTION 3: Composition/information on ingredients**

#### 3.1. Substances

Ingestion

Substance	Identification	Classification	Contents
Butanone	CAS no.: 78-93-3	F; R11	100 %
	EC no.: 201-159-0	Xi; R36	
	Index no.: 606-002-00-3	R66	
	Synonyms: Butan-2-one	R67	
		Flam. Liq. 2; H225	
		Eye Irrit. 2; H319	
		STOT SE 3; H336	

## **SECTION 4: First aid measures**

## 4.1. Description of first aid measures

Inhalation Move the exposed person to fresh air at once. Get medical attention if any

discomfort continues.

Skin contact

Remove contaminated clothes and rinse skin thoroughly with water.

Eye contact

Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyes wide apart. To hospital or eye specialist.

NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS! Do

not induce vomiting. Rinse mouth with water. Contact physician if larger quantity has been consumed. Get medical attention if any discomfort

continues.

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

Information for health personnel Treat Symptomatically. Do not give victim anything to drink if he is

unconscious.

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

Specific details on antidotes No recommendation given.

## **SECTION 5: Firefighting measures**

5.1. Extinguishing media

Suitable extinguishing media Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water

fog.

Improper extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Fire and explosion hazards HIGHLY FLAMMABLE! Vapours are heavier than air and may spread near

ground to sources of ignition. Solvent vapours may form explosive mixtures

with air.

Hazardous combustion products Fire creates: Carbon monoxide (CO). Carbon dioxide (CO2).

5.3. Advice for firefighters

Fire fighting procedures No specific fire fighting procedure given.

#### **SECTION 6: Accidental release measures**

#### 6.1. Personal precautions, protective equipment and emergency procedures

Personal protection measures Ensure suitable personal protection (including respiratory protection) during

removal of spillages in a confined area. Ventilate well. Stop leak if possible without risk. Avoid contact with skin and eyes. Do not breathe vapour. For

personal protection, see section 8.

6.2. Environmental precautions

Environmental precautionary

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

measures

6.3. Methods and material for containment and cleaning up

Cleaning method Dam and absorb spillages with sand, earth or other non-combustible material.

Collect spillage in containers, seal securely and deliver for disposal according

to local regulations.

6.4. Reference to other sections

Other instructions Information regarding exposure / personal protection and disposal, see section

8 and 13.

## **SECTION 7: Handling and storage**

## 7.1. Precautions for safe handling

Handling Keep away from heat, sparks and open flame. Take precautionary measures

against static discharges. Mechanical ventilation may be required.

**Protective Safety Measures** 

Advice on general occupational Provide easy access to water supply and eye wash facilities.

hygiene

7.2. Conditions for safe storage, including any incompatibilities

Storage Keep away from heat, sparks and open flame. Ground container and transfer

equipment to eliminate static electric sparks. Store in a cool and well-

ventilated place.

7.3. Specific end use(s)

Specific use(s) Not entered.

## **SECTION 8: Exposure controls/personal protection**

8.1. Control parameters

Other Information about threshold Norske grenseverdier; FOR-2011-12-06-1358 vedlegg 1.

limit values Butanon: 8 t.: 75ppm, 220 mg/m3 (2003)

**DNEL / PNEC** 

Method of testing Contents

DNEL Group: Worker

Exposure route: Dermal

**DNEL** 

**DNEL** 

**DNEL** 

**DNEL** 

Exposure frequency: Long term (repeated)

Type of effect: Systemic effect

Value: 1161 mg/kg

Group: Worker

Exposure route: Inhalation

Exposure frequency: Long term (repeated)

Type of effect: Systemic effect

Value: 600 mg/m3 Group: Consumer

Exposure route: Oral

Exposure frequency: Long term (repeated)

Type of effect: Systemic effect

Value: 31 mg/kg Group: Consumer

Exposure route: Dermal

Exposure frequency: Long term (repeated)

Type of effect: Systemic effect

Value: 412 mg/kg Group: Consumer

Exposure route: Inhalation

Exposure frequency: Long term (repeated)

Type of effect: Systemic effect

Value: 106 mg/m3

Exposure guidelines Country of origin: Sverige

Limit value type: KTV

OEL Short Term Value: 300 mg/m3

Source: Nationella hygieniska gränsvärden, AFS 2005:17

Other Information NGV, 150 mg/m3

TWA, 200 ppm STEL, 300 ppm

8.2. Exposure controls

Occupational exposure limits Provide adequate ventilation. Observe Occupational Exposure Limits and

minimise the risk of inhalation of vapours. Protective gloves and goggles are

recommended. Provide eyewash, quick drench.

#### Safetv signs







## Respiratory protection

Respiratory protection Respiratory protection must be used if air contamination exceeds acceptable

level. Use respiratory equipment with gas filter, type A2.

**Hand protection** 

Hand protection Use protective gloves. Chemical resistant gloves required for prolonged or

repeated contact.

Eye / face protection

Skin protection

Skin protection (except hands) Wear appropriate clothing to prevent any possibility of skin contact.

Hygiene / Environmental

Specific hygiene measures Wash hands after contact.

## **SECTION 9: Physical and chemical properties**

## 9.1. Information on basic physical and chemical properties

Methyl ethyl ketone (MEK)

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Colour Colourless. Odour Characteristic. Not relevant. Comments, pH (as supplied) Melting point/melting range Value: -86 °C Value: 82 °C Boiling point / boiling range Flash point Value: -9 °C Value: 1,8-11,5 % **Explosion limit** Vapour pressure Value: 12.6 kPa

Test temperature: 20 °C

Vapour density Value: 2,4

Test temperature: 20 °C

Specific gravity Value: 804-806 kg/m3

Test temperature: 20 °C

Solubility description
Soluble in: Alcohol.
Solublity in water
250 g/l (20 °C)
Partition coefficient: n-octanol/water
Value: 0,3
Spontaneous combustability
Value: 515 °C
Viscosity
Value: 0,42 mPas

Test temperature: 20 °C

#### 9.2. Other information

## **SECTION 10: Stability and reactivity**

## 10.1. Reactivity

Reactivity Heating may cause a fire.

10.2. Chemical stability

Stability Stable under the prescribed storage conditions.

## 10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Not known.

10.4. Conditions to avoid

Conditions to avoid Avoid heat, flames and other sources of ignition.

10.5. Incompatible materials

Materials to avoid Avoid contact with oxidising agents (e.g. nitric acid, peroxides and

chromates). Strong acids.

#### 10.6. Hazardous decomposition products

Hazardous decomposition products Fire creates: Carbon monoxide (CO). Carbon dioxide (CO2).

## **SECTION 11: Toxicological information**

## 11.1. Information on toxicological effects

## **Toxicological Information:**

Other toxicological data Acute Toxicity (Oral LD50): mg/kg (oral rat) > 2000 - ≤ 5000

Acute Toxicity (Inhalation LC50): > 5000 ppm Acute Toxicity (Dermal LD50): Rabbit mg/kg > 5000

Potential acute effects

In high concentrations, vapours are narcotic and may cause headache,

fatigue, dizziness and nausea. Icke klassificerad som aspirationstoxisk (Not

classified as asp. tox.)

Skin contact Prolonged or frequent contact may cause redness, itching, eczema and skin

cracking. Defats the skin.

Eye contact Causes serious eye irritation.

Ingestion Ingestion of large amounts may cause unconsciousness. However, ingestion

may cause nausea, headache, dizziness and intoxication. Ingestion may cause irritation of the gastrointestinal tract, vomiting and diarrhoea. May cause

irritation to the mouth and throat.

## Delayed effects / repeated exposure

Sensitisation Not known.
Chronic effects None known.

## Carcinogenic, Mutagenic or Reprotoxic

Carcinogenicity Not known.

Mutagenicity Not known.

Teratogenic properties Not known.

Reproductive toxicity Not known.

## **SECTION 12: Ecological information**

## 12.1. Toxicity

Acute aquatic, fish Value: > 100 mg/l

Method of testing: LL/EL/IL50

Acute aquatic, algae Value: > 100 mg/l

Method of testing: LL/EL/IL50

Acute aquatic, Daphnia Value: > 100 mg/l

Method of testing: LL/EL/IL50

## 12.2. Persistence and degradability

Degradation half life Lättnedbrytbart. 100% bryts ned på 28 dygn OECD 301D.

Comments, BOD BOD5/COD: 0,66-0,87
Persistence and degradability Log Pow: 0,61

## 12.3. Bioaccumulative potential

Bioaccumulative potential Will not bio-accumulate.

12.4. Mobility in soil

Mobility The product is water soluble and may spread in water systems.

Surface tension Value: 24,8 mN/m (20 °C)

#### 12.5. Results of PBT and vPvB assessment

PBT assessment results This substance is not classified as PBT or vPvB.

#### 12.6. Other adverse effects

Other adverse effects / Remarks None known.

## **SECTION 13: Disposal considerations**

#### 13.1. Waste treatment methods

Specify the appropriate methods of

disposal

Confirm disposal procedures with environmental engineer and local regulations. Absorb in vermiculite or dry sand and dispose of at a licenced hazardous

waste collection point. Liquid components can be disposed of by incineration.

Product classified as hazardous

waste

Yes

Packaging classified as hazardous

Yes

waste

## **SECTION 14: Transport information**

## 14.1. UN number

ADR 1193 RID 1193 IMDG 1193 ICAO/IATA 1193

## 14.2. UN proper shipping name

ADR METHYL ETHYL KETONE RID METHYL ETHYL KETONE

**IMDG** METHYL ETHYL KETONE ICAO/IATA METHYL ETHYL KETONE

## 14.3. Transport hazard class(es)

ADR	3
Hazard no.	33
RID	3
ADN	33
IMDG	3
ICAO/IATA	3

## 14.4. Packing group

**ADR** Ш RID Ш **IMDG** Ш ICAO/IATA Ш

## 14.5. Environmental hazards

Comments Not relevant.

## 14.6. Special precautions for user

**EmS** F-E, S-D

## 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Ship type required 3 Ζ Pollution category

## **SECTION 15: Regulatory information**

201-159-0

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

Other Label Information Regulation (EC) No 1272/2008 of the European Parliament and of the Council

> of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC,

and amending Regulation (EC) No 1907/2006 with amendments.

Legislation and regulations Dangerous Substance Directive 67/548/EEC.

The Chemicals (Hazard Information and Packaging for Supply) Regulations

2009 (S.I 2009 No. 716).

The List of Wastes (England) (Amendment) Regulations 2005. (SI 2005 No.

895). Avfallsförordningen (2011:927).

## 15.2. Chemical safety assessment

## **SECTION 16: Other information**

#### Hazard symbol





R-phrases R11 Highly flammable.

R36 Irritating to eyes.

R66 Repeated exposure may cause skin dryness or cracking.

R67 Vapours may cause drowsiness and dizziness.

S-phrases S2 Keep out of the reach of children.

S7 Keep container tightly closed.

S16 Keep away from sources of ignition - No smoking.

Classification according to

Flam. Liq. 2; H225;

Regulation (EC) No 1272/2008

[CLP/GHS]

Eye Irrit. 2; H319;

STOT SE3; H336; R36 Irritating to eyes.

List of relevant R-phrases (under headings 2 and 3).

R11 Highly flammable.

R67 Vapours may cause drowsiness and dizziness.

R66 Repeated exposure may cause skin dryness or cracking.

List of relevant H-phrases (Section

2 and 3).

H225 Highly flammable liquid and vapour. H336 May cause drowsiness or dizziness.

H319 Causes serious eye irritation.

Version

Responsible for safety data sheet Fred Holmberg & Co AB