



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 67/548/EEC or 1999/45/EC F; R11
Xi; R36
R66,R67
Classification according to Regulation (EC) No 1272/2008 [CLP/GHS] Flam. Liq. 2;H225;
Eye Irrit. 2;H319;
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.
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SECTION 3: Composition/information on ingredients

3.1. Substances

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

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

Specific details on antidotes	No recommendation given.
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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 (CO ₂).

5.3. Advice for firefighters

Fire fighting procedures	No specific fire fighting procedure given.
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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.
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6.2. Environmental precautions

Environmental precautionary measures	Avoid discharge into drains, water courses or onto the ground.
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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.
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6.4. Reference to other sections

Other instructions	Information regarding exposure / personal protection and disposal, see section 8 and 13.
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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.
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Protective Safety Measures

Advice on general occupational hygiene	Provide easy access to water supply and eye wash facilities.
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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.
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7.3. Specific end use(s)

Specific use(s)	Not entered.
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SECTION 8: Exposure controls/personal protection**8.1. Control parameters**

Other Information about threshold limit values	Norske grenseverdier; FOR-2011-12-06-1358 vedlegg 1. Butanon: 8 t.: 75ppm, 220 mg/m ³ (2003)
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DNEL / PNEC

Method of testing	Contents
DNEL	Group: Worker Exposure route: Dermal

	Exposure frequency: Long term (repeated) Type of effect: Systemic effect Value: 1161 mg/kg
DNEL	Group: Worker Exposure route: Inhalation Exposure frequency: Long term (repeated) Type of effect: Systemic effect Value: 600 mg/m ³
DNEL	Group: Consumer Exposure route: Oral Exposure frequency: Long term (repeated) Type of effect: Systemic effect Value: 31 mg/kg
DNEL	Group: Consumer Exposure route: Dermal Exposure frequency: Long term (repeated) Type of effect: Systemic effect Value: 412 mg/kg
DNEL	Group: Consumer Exposure route: Inhalation Exposure frequency: Long term (repeated) Type of effect: Systemic effect Value: 106 mg/m ³
Exposure guidelines	Country of origin: Sverige Limit value type: KTV OEL Short Term Value: 300 mg/m ³ Source: Nationella hygieniska gränsvärden, AFS 2005:17
Other Information	NGV, 150 mg/m ³ 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.

Safety 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

Eye protection

Use safety goggles or face shield in case of splash risk.

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

Colour	Colourless.
Odour	Characteristic.
Comments, pH (as supplied)	Not relevant.
Melting point/melting range	Value: -86 °C
Boiling point / boiling range	Value: 82 °C
Flash point	Value: -9 °C
Explosion limit	Value: 1,8-11,5 %
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/m ³ Test temperature: 20 °C
Solubility description	Soluble in: Alcohol.
Solubility 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

Inhalation 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 Lättnedbrytbar. 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 waste Yes

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	II
RID	II
IMDG	II
ICAO/IATA	II

14.5. Environmental hazards

Comments	Not relevant.
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14.6. Special precautions for user

EmS	F-E, S-D
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14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

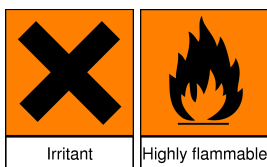
Ship type required	3
Pollution category	Z

SECTION 15: Regulatory information

EC no.	201-159-0
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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;
List of relevant R-phrases (under headings 2 and 3).	R36 Irritating to eyes. 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	1
Responsible for safety data sheet	Fred Holmberg & Co AB