70740 Methyl Ethyl Ketone MEK

1. Identification of the Substance/Mixture and of the Company/Undertaking

1. 1. Product Identifier

Product Name:	*Methyl Ethyl Ketone MEK*
Article No.:	*70740*
UFI:	*--*

1. 2. Relevant identified Uses of the Substance or Mixture and Uses advised against

Identified uses:

Industrial application

Uses advised against:

1. 3. Details of the Supplier of the Safety Data Sheet (Producer/Importer)

Company:	*Kremer Pigmente GmbH & Co. KG*
Address:	*Hauptstr. 41-47, 88317 Aichstetten, Germany*
Tel./Fax.:	*Tel +49 7565 914480, Fax +49 7565 1606*
Internet:	*www.kremer-pigmente.com*
EMail:	*info@kremer-pigmente.com*
Importer:	*--*

1. 4. Emergency No.

Emergency No.: *+49 7565 914480 (Mon-Fri 8:00 - 17:00)*

1. 4. 2 Poison Center:

2. Hazards Identification

2. 1. Classification of the Substance or Mixture

Classification according to Regulation (EC) No. 1272/2008 (CLP/GHS)

Flammable liquids, hazard category 2
Serious eye damage, hazard category 2
Specific Target Organ Toxicity (single exposure), hazard category 3

H225	Highly flammable liquid and vapour.
Cat.: 2	
H319	Causes serious eye irritation.
Cat.: 2	
H336	May cause drowsiness or dizziness.
Cat.: 3	

Possible Environmental Effects:

See Section 12.

2. 2. Label Elements

Classification according to Regulation (EC) No. 1272/2008 (CLP/GHS)

Hazard designation:

GHS02-2

GHS07

Signal word:

Danger

Hazard designation:

H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
EUH066	Repeated exposure may cause skin dryness or cracking.

Safety designation:

P210	Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses and continue rinsing.
P312	Call a poison center or physician if you feel unwell.
P370+P378	In case of fire: use water spray, foam, carbon dioxide or dry extinguishing powder for extinction.
P403+P233	Store in a well ventilated place. Keep container tightly closed.
P403+P235	Store in a well ventilated place. Keep cool.
P501	Dispose of contents/ container according to regional, national and international regulations.

Hazardous components for labelling:

2. 3. Other Hazards

3. Composition/Information on Ingredients

3. 1. Substance

3. 2. Mixture

Chemical Characterization: *Synonyms: Butane-2-on, 2-Butanone, Methylpropanone, Ethylmethylketone*

Information on Components / Hazardous Ingredients:

Methyl ethyl ketone (MEK) (2-Butanone; Xi, H225-319-336); REACH Reg. Nr. 02-2119457290-43-xxxx	100 %	CAS-Nr: 78-93-3 EINECS-Nr: 201-159-0 EC-Nr: 606-002-00-3

Additional information:

4. First Aid Measures

4. 1. Description of the First Aid Measures

General information:

Take person away from hazardous area.
Remove contaminated clothes immediately.

Give artificial respiration in case breathing is not regular or if it has stopped.

After inhalation:

Supply fresh air. If required give artificial respiration. In case of complaints or unconsiousness consult a physician. In case of unconsciousness place patient stable in side position for transportation.

Give artificial respiration in case breathing is not regular or if it has stopped.

After skin contact:

Remove contaminated clothing immediately. Wash off immediately with plenty of water and soap.

If symptoms persist, consult a physician.

After eye contact:

Rinse open eye for several minutes under running water. Should irritation continue, seek medical advice.

After ingestion:

Do not induce vomiting. Consult physician immediately.

Rinse mouth with water and give plenty of water to drink. Consult a physician.

4. 2. Most important Symptoms and Effects, both Acute and Delayed

Symptoms:

Narcotic effects, breathing difficulties, headache, dizziness.

Effects:

No further information available.

4. 3. Indication of any Immediate Medical Attention and special Treatment needed

Treatment:

Subsequent observation for pneumonia and pulmonary edema. Monitor the circulation.

5. Fire-Fighting Measures

5. 1. Extinguishing Media

Suitable extinguishing media:

Foam, carbon dioxide (CO2), extinguishing powder, water spray, sand.

Unsuitable extinguishing media:

Never apply a strong water jet.

5. 2. Special Hazards arising from the Substance or Mixture

Special hazards:

Highly flammable.

Fumes can form an explosive mixture with air.

In case of fire: release of hazardous decomposition products.

In case of fire: formation of carbon oxides.

5. 3. Advice for Firefighters

Protective equipment:

Wear suitable protective clothing.

Wear self-contained respiratory protective device.

Further information:

Cool closed containers exposed to fire with water mist.
Collect contaminated extinguishing water and debris separately; avoid contamination of sewage system.

6. Accidential Release Measures

6. 1. Personal Precautions, Protective Equipment and Emergency Procedures

Personal precautions:

Wear appropriate protective equipment. Keep spectators away.
Avoid contact with skin and eyes. Do not ingest or inhale.
Provide adequate ventilation. Keep away from sources of ignition.
Close leaks without taking any risk.

6. 2. Environmental Precautions

Environmental precautions:

Prevent contamination of soils, drains and surface water.
Contact local authorities if product pollutes soil or vegetation.

6. 3. Methods and Material for Containment and Cleaning Up

Methods and material:

Provide adequate ventilation.
Contain with absorbent material (sand, earth, vermiculite or diatomaceous earth) and collect in appropriate containers for disposal.
This product and its container must be disposed as hazardous waste.

6. 4. Reference to other Sections

Protective clothing, see Section 8.
See Section 13 for information on disposal.

7. Handling and Storage

7. 1. Precautions for Safe Handling

Instructions on safe handling:

The usual precautionary measures are to be adhered to when handling chemicals.
Provide adequate ventilation.
Avoid contact with eyes and skin.
Provide good ventilation and/or exhaust at the workplace. Ensure adequate ventilation. Handle and open container with care.
A nearby eyewash facility should be available for emergencies.

Hygienic measures:

Take off contaminated clothing immediately.
Do not inhale gas/fumes/vapours/aerosols.
Avoid contact with eyes and skin.
Keep away from foodstuffs and drinks. Do not eat, drink or smoke during work. Wash hands before breaks and at the end of work.

7. 2. Conditions for Safe Storage, including any Incompatibilities

Storage conditions:

Store in tightly sealed containers in a dry and cool room.
Store product in a well ventilated area.
Protect against heat.
Keep away from ignitable sources, heat and fire.

Requirements for storage areas and containers:

Store in a room with a solvent-proof floor.
Suitable container material: steel or stainless steel.
Unsuitable container material: aluminium.

Information on fire and explosion protection:

Use only in explosion protective area. Extinguish any naked flames. No not smoke. Remove ignition sources. Avoid sparks. Ensure electrical continuity by bonding and grounding (earthing) all equipment.
Combustible liquid.
Vapors may form an explosive mixture with air. Vapor is heavier than air and spreads along the ground.
Keep away from sources of ignition - do not smoke. Take measures to prevent electrostatic discharge.

Storage class:

3; Flammable liquids (TRGS 510)

Further Information:

The product is slightly hazardous to water. Consider national regulations regarding handling and storage.

7. 3. Specific End Use(s)

Further information:

8. Exposure Controls/Personal Protection

8. 1. Parameters to be Controlled

Parameters to be controlled (DE):

MEK (CAS 78-93-3):
TLV: Average value: 200 ppm, 600 mg/m3; Short term value: 20 ppm, 600 mg/m3; Y
TRGS 900, Skin designation: can be absorbed by skin.
Y: No teratogenic risk when the exposure limit values (ELV) and biological limit values (BLV) are adhered to.

Parameters to be controlled:

MEK (CAS 78-93-3):
ELV (EU): Average value: 200 mg/m3, 600 mg/m3; Short term value: 300 ppm, 900 mg/m3
MAK (AT): Average value: 100 mg/m3, 295 mg/m3; Short term value: 200 ppm, 590 mg/m3
MAK (CH): Average value: 200 ppm, 590 mg/m3; Short term value: 200 ppm, 590 mg/m3

Derived No-Effect Level (DNEL):

1161 mg/kg (worker, skin contact, long-term exposure - systemic effects)

600 mg/m3 (worker, inhalation, long-term exposure - systemic effects)

Predicted No-Effect Concentration (PNEC):

Fresh water / Seawater: 55.8 mgl
Fresh water sediment / Seawater sediment: 284.7 mg/kg
Sporadic release: 55.8 mg/l
Sewage treatment system (STP): 709 mg/kg
Boden: 22.5 mg/kg

Additional Information:

MEK (CAS 78-93-3): BAT/BLV (DE): 2 mg/l; BAT (CH): 2 mg/l

8. 2. Exposure Controls

Technical protective measures:

Adequate ventilation to control airborne concentrations below the exposure limits.

Personal Protection

General protective measures:

Keep away from foodstuffs and drinks. Do not eat, drink or smoke during work. Wash hands before breaks and at the end of work.
Remove contaminated clothing immediately.
Do not inhale gas/fumes/vapor/aerosol.
Avoid contact with eyes and skin.

Respiratory protection:

Respiratory equipment required in case of insufficient ventilation, filter type A.

Hand protection:

Protective gloves
Protective gloves should be changed regularly, especially after intensive contact with the product.

Protective glove material:

Butyl rubber (NBR): > 480 min (permeation level 6), > 0.7 mm

Eye protection:

Tightly fitting safety goggles (EN 166).

Body protection:

Protective clothing.

Environmental precautions:

Prevent contamination of open water ways and sewage system. Avoid contamination of ground water.

9. Physical and Chemical Properties

9. 1. Information on Basic Physical and Chemical Properties

Form:	*liquid*
Color:	*colorless*
Odor:	*characteristic*

Odor threshold:	*no information available*
pH-Value:	*not determined*
Melting temperature:	*-86°C*
Boiling temperature:	*79.5°C (1013 hPa)*
Flash point:	*-9°C*
Evaporation rate:	*not determined*
Flammability (solid, gas):	*Flammable liquid according to GHS criteria*
Upper explosion limit:	*11.5 Vol.%*
Lower explosion limit:	*1.5 Vol.%*
Vapor pressure:	*126 hPa (25°C)*
Vapor density:	*2.5*
Density:	*0.81 g/cm3 (20°C)*
Solubility in water:	*250 g/l (20°C)*
Coefficient of variation (n-Octanol/Water):	*0.3 logKOW (pH 7, 40°C)*
Auto-ignition temperature:	*not determined*
Decomposition temperature:	*Easily distilled at base conditions without decomposition.*
Viscosity, dynamic:	*not determined*
Explosive properties:	*Product is not explosive; however, an explosive vapor/air mixture can be formed.*
Oxidizing properties:	*none*
Bulk density:	*not determined*

9. 2. Further Information

Solubility in solvents:	
Viscosity, kinematic:	
Burning class:	
Solvent content:	*Solvent content: 100 %*
Solid content:	

Particle size:

Other information:

Surface tension: 24.8 mN/m (20°C)
Temperature class: T2 (maximum temperature: 300°C)

10. Stability and Reactivity

10.1. Reactivity

Stable if used according to specifications.

10.2. Chemical Stability

Stable if used according to specifications.

10.3. Possibility of Hazardous Reactions

Formation of explosive vapor-air-mixtures possible.
Reacts with oxidizing agents.

10.4. Conditions to Avoid

Conditions to avoid:

Avoid contact with heat, sparks and open fire.

Thermal decomposition:

No further information available.

10.5. Imcompatible Materials

Oxidizing agents.

10.6. Hazardous Decomposition Products

No information available.

10.7. Further Information

11. Toxicological Information

11. 1. Information on Hazard Classes as defined in Regulation (EC) No. 1272/2008

Not classified as acute toxic.

Acute Toxicity

LD50, oral: *2054 mg/kg (rat)*

LD50, dermal:

LC50, inhalation:

Primary effects

Irritant effect on skin:

Non irritating

Irritant effect on eyes:

Causes serious eye irritation.

Inhalation:

No information available.

Ingestion:

No information available

Sensitization:

No sensitizing effect (guinea pig).

Mutagenicity:

No mutagenic effects observed.

Reproductive toxicity:

No negative effects.

Carcinogenicity:

No negative effects.

Teratogenicity:

Did not show any teratogenic effects in animal studies (IUCLID).

Specific target organ toxicity (STOT):

Single exposure: may cause drowsiness or dizziness.
Repeated exposure: no organospecific toxicity expected.

Aspiration hazard

Not applicable

11. 2. Information on other Hazards

Skin contact: repeated exposure may cause skin dryness or cracking.

12. Ecological Information

12. 1. Aquatic Toxicity

Fish toxicity:

LC50: 2993 mg/l (96h, fish); LC50 (Chronic): 1816 mg/l (24h, fish)

Daphnia toxicity:

EC50: 308 mg/l (48h, Daphnia magna); EC50 (Chronic): > 345 mg/l (24h, Daphnia magna)

Bacteria toxicity:

No data available.

Algae toxicity:

ErC50: 2029 mg/l (96h, algae); ErC50 (Chronic): 1901 mg/l (24h, algae)

12. 2. Persistency and Degradability

98 % (28d); readily biodegradable (OECD 301D)

12. 3. Bioaccumulation

No bioaccumulation.

12. 4. Mobility

No information available.

12. 5. Results of PBT- und vPvP Assessment

This substance is not classified as PBT (persistent, bioaccumulative, toxic), nor as vPvB (very persistent, very bioaccumulative).

12. 6. Endocrine Disrupting Properties

Not listed.

12. 7. Other Adverse Effects

Water hazard class:

1, slightly hazardous

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Behaviour in sewage systems:

Further ecological effects:

Do not let product enter waterways or sewage system.

AOX Value:

13. Disposal Considerations

13. 1. Waste Treatment Methods

Product:

Must not be disposed together with household garbage.
Special disposal required according to local regulations.
Do not let product enter water systems.

European Waste Code (EWC):

Uncleaned packaging:

Residues may cause an explosion hazard.
Contaminated packaging must be disposed like the substance.
Dispose of according to official local regulations.

Waste Code No.:

14. Transport Information

14. 1. UN Number

ADR, IMDG, IATA *1193*

14. 2. UN Proper Shipping Name

ADR/RID: *ETHYLMETHYLKETON*

IMDG/IATA: *ETHYL METHYL KETONE*

14. 3. Transport Hazard Classes

ADR Class: *3*

Hazard no.: *3*

Classification code: *F1*

Tunnel restriction code: *D/E*

IMDG Class (sea): *3*

Hazard no.: *3*

EmS No.: *F-E, S-D*

IATA Class: *3*

Hazard no.: *3*

14. 4. Packaging Group

ADR/RID: *II*

IMDG: *II*

IATA: *II*

14. 5. Environmental Hazards

Labelling according 5.2.1.8 ADR/RID: no

Labelling according 5.2.1.6.3 IMDG: no
Labelled with "P" according 2.10 IMDG: no

14. 6. Special Precautions for User

none known

14. 7. Maritime Transport in Bulk according to IMO Instruments

IMDG: not applicable

14. 8. Further Information

15. Regulatory Information

15. 1. Safety, Health and Environmental Regulations/Legislation specific for the Substance or Mixture

Water hazard class:

1, slightly hazardous for water (German Regulation)

Local regulations on chemical accidents:

Seveso-III Directive (2012/18/EU):
Flammable liquids (P5c): Amount 1: 5000 t; Amount 2: 50000 t

Employment restrictions:

Restriction and prohibition of application:

Technical instructions on air quality:

15. 2. Chemical Safety Assessment

A Chemical Safety Assessment has not been carried out for this product.

15. 3. Further Information

Listed in the following inventories:
EINECS (201-159-0), TSCA (US), AICS (AUS), DSL/INV (CA), ENCS (JP: (2)-542), KECI (KR: KE-24094), PICCS (PH), GIFT (CH: G-2429)
RoHS Directive 2011/65/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHs): not listed.
Fire hazard class (German "Flammable Liquids Ordinance" (VbF)): AI (flammable liquids of group A, hazardous class I)
VOC Content: 100 %

16. Other Information

This product should be stored, handled and used in accordance with good hygiene practices and in conformity with any legal regulations. This information contained herein is based on the present state of knowledge and is intended to describe our product from the point of view of safety requirements. It should be therefore not be construed as guaranteeing specific properties.