



SAFETY DATA SHEET

MEKP Catalyst

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND THE COMPANY

Product name MEKP Catalyst
Company Easy Composites Ltd
 Unit 39,
 Park Hall Business Village
 Longton, Stoke-on-Trent
 ST3 5XA
 United Kingdom

Email sales@easycomposites.co.uk
Telephone 01782 454499

2. HAZARDS IDENTIFICATION

Main hazards

Danger classification:
 O = Oxidising
 C = Corrosive

R phrases:
R-7 May cause fire.
R-22 Harmful if swallowed.
R-34 Causes burns.

S phrases:
S-3/7- Keep container tightly closed in a cool place.
S-26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S-36/37/39- Wear suitable protective clothing, gloves and eye/face protection.
S-50- Do not mix with accelerators, reducing agents, strong acids, alkalis and heavy metal compounds.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous ingredients	Conc.	CAS	EINECS	CAS Symbols/Risk phrases
Dimethyl phthalate	0-67%	131-11-3	205-011-6	None
TXIB	0-67%	6846-50-0	229-934-9	None
Methyl ethyl ketone peroxide	30-40%	1338-23-4	215-661-2	E, C / 2, 22, 34

Hydrogen peroxide	< 5%	7722-84-1	231-765-0	O, C / 5, 8, 20/22, 35
Methyl ethyl ketone(2-butanone)	< 3%	78-93-3	201-159-0	F, Xi / 11,36,66,67
Water	< 3%	7732-18-5		None
Methyl Bensoate	0-25%	93-58-3	202-259-7	Xn / 22

4. FIRST AID MEASURES

Skin contact	Remove contaminated clothing. Wash skin thoroughly with soap and temperate water. Skin contact can cause skin corrosion.
Eye contact	Irrigate copiously with clean, tempered fresh water for at least 15 minutes holding the eyelids apart and seek medical advice if necessary. Eye contact can cause irreversible eye damage or eye corrosion.
Inhalation	Remove to fresh air, keep patient warm and at rest, if breathing is irregular or stopped, administer artificial respiration. Give nothing by mouth. If unconscious, place in recovery position and seek medical advice.
Ingestion	If accidentally swallowed obtain immediate medical attention. Keep at rest. Drink water or milk, and DO NOT induce vomiting. Ingestion can cause damage, corrosion of gullet and stomach.
General information	In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.

5. FIRE FIGHTING MEASURES

Extinguishing media	Water spray from a safe distance, preferably with a water-fog nozzle. For very small fires, an extinguisher with carbon dioxide, foam or dry chemical may be effective. In case of a fire in or near a storage area, cool stored containers with water spray.
Fire hazards	Unsuitable extinguishing media: Water jet. This peroxide burn vigorously with acceleration. Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard. Caution: Reigniting may occur.
Protective equipment	Wear resistant protective clothing and foot wear. Appropriate breathing apparatus may be required.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Avoid breathing vapours. Avoid skin and eye contact. Wear personal protection equipment recommended in section 8.
Environmental precautions	Contain any fluid that runs out using inert non-combustible material e.g. sand, earth, vermiculite. Dike to prevent runoff from entering drains, sewers, streams etc. If the product contaminates lakes, rivers or sewage, inform appropriate authorities in accordance with local regulations.
Clean up methods	Absorb the leak with an inert, non-combustible absorbent material, e.g. sand, earth, perlite or vermiculite. Transfer the material into a clean approved container for proper disposal. Wet the material with water. Wash the contaminated zone.

7. HANDLING AND STORAGE

Handling	Precautions for safe handling: Provide adequate ventilation. Keep containers tightly closed when not in use. Avoid skin and eye contact. Avoid breathing vapours. Wear
-----------------	---

personal protection equipment recommended in section 8. Emergency shower and equipment for rinsing eyes must be available. Do not use near food or drink. Wash the hands thoroughly after handling or contact.

Storage

Conditions for storage rooms and vessels: Store in accordance with local regulations. Store in original package, in cool, well ventilated place away from sources of heat, fires, sparks and direct sunlight. For maximum shelf life we recommend to store the product at temperatures not higher than 25°C. At higher temperatures the shelf life will be reduced. For safety reasons the storage temperature should not exceed 35°C. Rotate stock using the oldest material first. Prevent unauthorized access.

Avoid storage of incompatible materials: The product must never be stored together with accelerators such as dryers, heavy metal compounds etc. Avoid contact with rust. Keep away from sources of ignition. Keep away from oxidizing agents, from strongly alkaline and strongly acid materials.

Further information for storage: Store in original package. Rotate stock using the oldest material first. Prevent unauthorized access.

Precautions against fire and explosions:

Isolate from sources of heat, sparks and open flame. No sparking tools should be used. Preparation may charge electrostatically: always use earthing leads when transferring from one container to another. Use clean equipment and tools of inert material such as stainless steel, polyethylene, polypropylene, glass. All equipment should be earthed. Use Peleus ball when pipetting the peroxide solutions. Dilution is not recommended. Never dilute with acetone.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:

Component	CAS-no.	Swedish Exp.limits / Type	ACGIH / Type
Methyl ethyl ketone peroxide	1338-23-4	0.2 ppm / C 1,5 mg/m ³ / C	0.2 ppm / C
Dimethylphthalate	131-11-3	3.0 mg/m ³ / TWA	5 mg/m ³ / TWA
Hydrogen peroxide	7722-84-1	1 ppm / TWA	1 ppm / TWA
Butanone (methyl ethyl ketone)	78-93-3	50 ppm / TWA	50 ppm / TWA

TWA = Time Waited Average

TLV = Threshold Limited Value

C = Ceiling Limited Value

General protection and hygiene measures: Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. Do not eat or drink when handling.

Personal Protection equipment:

Respiratory protection: Is required if the limit like TWA or TLV are exceeded. Gas mask with filter A (brown, organic substances) or positive pressure self contained breathing apparatus.

Hand protection: Use resistant gloves of: butyl rubber, neoprene, ethylen-vinylalcohol, teflon.

Eye protection: Use safety eyewear designed to protect against splash of liquids. Splashes in the eyes may cause serious eye damage. Emergency eye rinsing equipment must be available.

Skin protection: Wear antistatic clothing made of natural fibre or of high temperature resistant synthetic fibre. All parts of the body should be washed after contact.

Further information: Observe the information in section 7.

DNEL

Methyl ethyl ketone peroxide 40% in Dimethyl phthalate:

Use: Industrial or professional

DNEL Acute toxicity worker:

Oral: NA

Dermal: NA

Inhalation: NA

DNEL Long term, Repeated toxicity worker/general population:

Oral: NA/0,27 mg/kg bw,d

Dermal: 1,08 / 0,54 mg/kg bw,d
 Inhalation: 1,90 / 0,41 mg/m³
 PNEC freshwater: 5,6E-03 mg/L
 PNEC marine waters: 5,6E-04 mg/L
 PNEC freshwater sediment: 6,18E-04 mg/kg wwT
 PNEC marine sediment: 1,9E-03 mg/kg wwT
 PNEC soil: 1,26E-03 mg/kg dw
 PNEC sewage treatment plant: 1,2 mg/L
 Not mutagenic.
 Not sensitising.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid.
Colour	Clear. Colourless.
Odour	Faint, minty
Boiling point	Not applicable (decomposes)
Flash point	< 75°C
Explosive properties	NO
Lower explosion limit LEL	Not applicable
Upper explosion limit UEL	Not applicable
Oxidizing properties	No
Vapour pressure at 84 oC, (kPa)	0,10
Viscosity at 20°C (mPas)	9-23
pH	4 – 7
Active oxygen (%)	8,7-9,8
SADT (oC)	60
Density at 20°C (g/cm³)	1.00 - 1.16
Solubility in water	Immiscible

10. STABILITY AND REACTIVITY

Stability	Stable when kept in original, closed container, out of direct sunlight at temperatures below 35°C. SADT (Self accelerating decomposition temperature) 60 oC. Contact with incompatible material can cause decomposition below SADT. Decomposition of product due to heat or contamination may lead to fire or strong explosions.
Conditions to avoid	Temperatures over 25°C and storage in direct sunlight. Confinement in stainless steel equipments (tanks, vessels, pipes etc).
Materials to avoid	Incompatible materials such as acids, strong bases, tert-amines, Friedel-crafts catalysts, heavy metals, cobalt accelerators or other peroxide accelerators or promoters, rust, brass, galvanized steel, acetone, reducing or oxidizing agents, grinding dust and dirt.
Decomposition and combustion products:	Carbon dioxide, Water, Acetic acid, Formic acid, Propanoic acid.

11. TOXICOLOGICAL INFORMATION

Toxicological information

Skin contact:	Corrosive. Causes burns. Might cause irritation, skin-rash, swelling and chapping.
Eyes contact:	Corrosive. Just a few drops of it might cause irreversible lesion and permanent injury of the cornea.
Inhalation:	Inhalation might cause cough, headache and irritation of the respiratory-system.
Ingestion:	Harmful. Swallowing causes strong irritation and burn of throat and stomach. Perforations of the mucous membranes might occur and, according to its quantity, it might also cause the death of the injured person.

Sensitizing: Not sensitizing
Genotoxicity: Not mutagenic (Ames test)

Toxicological tests:

Methyl ethyl ketone peroxide 40% in Dimethyl phthalate:

Oral (rat) LD-50 1017 mg/kg
Dermal (rat) LD-50 4000 mg/kg
Inhalation(rat) LC-50 17 ml/l, 4h
Skin Corrosive
Eyes Corrosive

Dimethyl phthalate:

Oral (rat) LD-50 >2400 mg/kg
Dermal (rabbit)LD-50 >10000 mg/kg
Inhalation LC-50 9300 mg/m³, 6,5h
Skin Mildly irritating
Eyes Minimally irritating

Methyl ethyl ketone:

Oral (rat) LD-50 >2000 mg/kg
Dermal (rat) LD-50 >2000 mg/kg
Skin Irritating
Eyes Strongly irritating

Hydrogen Peroxide:

Oral (rat) LD-50 1518 mg/kg
Inhalation (rat)LC-50 >10-20 mg/l, 4h
Skin Corrosive

12. ECOLOGICAL INFORMATION

Ecotoxicity

Methyl ethyl ketone peroxide 40% in Dimethyl phthalate:

Fish acute toxicity, LC50 (96h) 44,2 mg/l (Poecilia reticulata)
NOEC (96h) 18 mg/l
Aquatic invertebrates acute toxicity, LC50 (48h) 39 mg/l (Daphnia)
Algae acute toxicity, EC50 (72h) 5,6 mg/l
NOEC (72h) 2,1 mg/l
Bacteria EC50 48 mg/l (activated sludge)
EC10 12 mg/l
Degradation Biotic: Readily biodegradable (closed bottle test)
Considered as not persistent.
Considered as no PBT- and no vPvB-substance.

Dimethyl phthalate:

Algae Selenastrum capricornutum, IC50 (96h) 39,8 mg/l

Methyl ethyl ketone:

Fish acute toxicity, LC50 (48h) >100 mg/l (Leuciscus idus)
Aquatic invertebrates acute toxicity, LC50 (48h) >100 mg/l (Daphnia)
Algae acute toxicity, EC50 (7 d) >100 mg/l (Desmodesmus subspicatus)
Degradation Biotic: Readily biodegradable (closed bottle test)

Hydrogen peroxide:

Fish acute toxicity, LC50 (96h)16,4 mg/l
Aquatic invertebrates acute toxicity, EC50 (48h) 2,4 mg/l (Daphnia)
Algae acute toxicity, EC50 (72h) 2,5 mg/l
Degradation Biotic: Readily biodegradable (closed bottle test)

13. DISPOSAL CONSIDERATIONS

General information Do not allow into drains or water courses. Product waste is considered as dangerous waste and should be disposed in accordance to local regulations. Emptied containers should be handled as dangerous waste according to local regulations. The producer recommends destruction of both peroxide rests and empty packaging by combustion under controlled forms.

14. TRANSPORT INFORMATION

ADR/RID

UN 3105 Classification code: P1
Class 5.2 Tunnel Code: D

Proper Shipping Name Organic Peroxide Type D, Liquid
(Methyl Ethyl Ketone Peroxide)

IMDG

UN 3105 Packing group II
Class 5.2 Marine pollutant: no
EmS Code F-J S-R

IATA

UN 3105 Packing group II
Class 5.2

15. REGULATORY INFORMATION

Labelling Symbols Substance listed in 96/82/EC, Organic Peroxide, O oxidising, C corrosive.



Risk phrases

R-7 - May cause fire.
R-22 - Harmful if swallowed.
R-34 - Causes burns.

Safety phrases

S-3/7 - Keep container tightly closed in a cool place.
S-26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S-36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.
S-50 - Do not mix with accelerators, reducing agents, strong acids, alkalis and heavy metal compounds.

16. OTHER INFORMATION

In Addition from section 2 and 3. Methylethylketone peroxide. Symbol E, C
R2 Risk of explosion by shock, friction, fire or other sources of ignition
R22 Harmful if swallowed
R34 Causes burns
H240 Heating may cause an explosion
H302 Harmful if swallowed

- H312 Harmful in contact with skin
- H314 Causes severe skin burns and eye damage

Hydrogen peroxide. Symbol O, C

- R5 Heating may cause an explosion.
- R8 Contact with combustible material may cause fire
- R20/22 Harmful by inhalation and if swallowed
- R35 Causes severe burns.
- H271 May cause a fire or explosion; strong oxidizer
- H314 Causes severe skin burns and eye damage
- H332 Harmful if inhaled
- H335 May cause respiratory irritation

Methyletylketone. Symbol F, Xi

- R11 Highly flammable
- R36 Irritating to eyes
- R66 Repeated exposure may cause skin dryness or cracking
- R67 Vapours may cause drowsiness and dizziness
- H225 Highly flammable liquid and vapour
- H319 Causes serious eye irritation
- H336 May cause drowsiness or dizziness

Methylbenzoate, Symbol Xn

- R22 Harmful if swallowed
- H302 Harmful if swallowed

Further information

The information supplied in this Safety Data Sheet is designed only as guidance for the safe use, storage and handling of the product. This information is correct to the best of our knowledge and belief at the date of publication however no guarantee is made to its accuracy. This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process.