

CATALYST

TECHNICAL DATA

METHYL ETHYL KETONE PEROXIDE (Liquid Catalyst)

SAFETY DATA SHEET According to EC-directive 93/112/EC

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Chemical identity Methyl ethyl ketone peroxide, in dimethyl phthalate

Supplier

Telephone No:

Emergency telephone 01942 518150

2 COMPOSITION/INFORMATION ON INGREDIENTS

This product is to be considered as a preparation in conformance to EC directives

Chemical description Methyl ethyl ketone peroxide, in dimethyl phthalate

Composition/information on ingredients

Number	% w/w	CAS-number	Chemical Name
1		33.0 1338-23-4	Methyl ethyl ketone peroxide
2	63.0	131-11-3	Dimethyl phthalate
3	1.0	78-93-3	Methyl ethyl ketone

Number	EINECS/ELINCS	EEC-number	Symbol(s)	Risk-phrase(s)
	1	2156612		E C R2 R20/22 R34 R7
	2	2050116		none none
	3	2011590	606-002-00-3	F R11

Other information Balance: non-hazardous ingredients.

3 HAZARDS IDENTIFICATION

May cause fire.
Harmful by inhalation and if swallowed.
Causes burns.

4 FIRST AID MEASURES

Symptoms and effects	Harmful by inhalation and if swallowed. Causes burns. Risk of serious damage to eyes.
First Aid	
General	Call a physician immediately.
Inhalation	Move to fresh air, rest, half-upright position, loosen clothing. Oxygen or artificial respiration if there is difficulty in breathing. Seek medical advice after significant exposure.
Skin	Remove all contaminated clothing immediately. Wash off with plenty of soap and water. Always seek medical advice. Launder clothes before re-use.
Eye	Rinse immediately and as long as possible with plenty of water. Eyelids should be held away from the eyeball to ensure thorough rinsing. Always seek medical advice.
Ingestion	Only when conscious, rinse mouth, give plenty of water to drink (approx. 500ml). DO NOT induce vomiting. Seek medical advice.
Advice to physician	No additional information available.

5 FIRE-FIGHTING MEASURES

Extinguishing media	Waterspray, foam, fire-extinguishing powder, carbon dioxide. Extinguish a small fire with powder or carbon dioxide then apply water to prevent re-ignition.
Unsuitable extinguishing media	Halones. .
Special Exposure Hazards	If involved in a fire, it will support combustion. In case of fire and/ explosion do not breathe fumes

Hazardous decomposition/combustion products

Not determined

Protective equipment

Wear suitable protective clothing. Wear self-contained breathing apparatus.

Other information

Cool closed containers with water.

6 ACCIDENTAL RELEASE MEASURES

Personal precautions

Avoid contact with skin and eyes. For personal protection see Section 8.

Environmental precautions

Collect as much as possible in a clean container for (preferable) re-use or disposal. Do not empty into drains.

Methods for cleaning up

The waste should **NOT** be confined. Absorb the remainder with e.g. vermiculite.

Other information

For personal protection see Section 8.

7 HANDLING AND STORAGE

Handling

Never weigh out in the storage room. Keep product and emptied container away from heat and sources of ignition. No sparking tools should be used. Avoid shock and friction. Confinement must be avoided. Do not pipet by mouth. Do not inhale. Never bring peroxide into direct contact with accelerator during processing. Weigh out and add peroxide and accelerator separately.

Fire and explosion prevention

Use explosion protected equipment. Keep away from sources of ignition. No smoking.

Storage requirements

Keep away from reducing agents e.g. amines, acids, alkali, heavy metal compounds (e.g. accelerators, dryers, metal soaps). Store in accordance with local/national regulations. Store in a dry well ventilated place away from sources of heat and direct sunlight. Do not mix with peroxide accelerators. Do not mix with reducing agents. Keep container tightly closed in a cool, well-ventilated place. Keep container upright to prevent leakage. Confinement must be avoided.

Other information

When using do not eat, drink or smoke. Wash thoroughly after handling. Keep working clothing separately and do not take them home.

8 EXPOSURE AND CONTROLS/PERSONAL PROTECTION

Engineering controls Ensure good ventilation and local exhaustion of the working area.
Explosion proof ventilation recommended.

Exposure limits

Name	Exposure limits
Methyl ethyl ketone peroxide	OES-STEL (1993) 1.5mg/m ³
Methyl ethyl ketone	OES-TWA (1993) 590.0 mg/m ³ OES-STEL (1993) 885.0 mg/m ³

Personal protection

Respiratory	Do not breath vapour. Ensure good ventilation and local exhaustion of the working area.
Hand	Wear suitable gloves of neoprene or synthetic rubber.
Eye	Wear eye/face protection. A face shield is preferred over goggles.
Skin and body	Wear suitable protective clothing and gloves. Take off contaminated clothing immediately.
Other information	Launder clothes before re-use.

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Liquid
Colour	Clear and colourless
Odour	Faint
Boiling point/range	Do not distil (decomposes)
Melting point/range	Turbid < -10°C
Flash point	52°C (Setaflash ISO 3679)

Flammability	Not determined
Auto ignition temperature	218°C (DIN 51794)
Explosive properties	No
Explosion limits	Not applicable
Oxidising properties	Not applicable
Vapour pressure	Not determined
Density	1180 kg/m ³ (20°C)
Bulk density	Not applicable
Solubility in water	Partly mixable with water
Solubility in other solvents	Phthalates
pH value	Slightly Acidic character
Partition coefficient n-octanol/water	Not determined
Relative vapour density air = 1	Not determined
Viscosity	20 MM ² /SEC. (20°C)
Active oxygen content	8.8-9.0%
Peroxide content	33%
SADT	60°C. See also Section 10: Other information.
Specific conductivity	Not determined

10 STABILITY AND REACTIVITY

Stability A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be caused by direct contact with incompatible substances or by thermal decomposition at and above the following temperature: +60°C

Conditions to avoid	Violent reactions may be expected with acid, alkali, heavy metals and reducing agents. Avoid contact with rust. Confinement must be avoided. Do not mix with peroxide accelerators. Do not mix with reducing agents.
Materials to avoid	Use only Stainless Steel 316, PVC, polyethylene or glass-lined equipment.
Hazardous decomposition products	Not determined
Other information	The SADT (self-accelerating decomposition temperature) is an experimentally derived temperature at which the product in a typical package will undergo self-accelerating decomposition.

11 TOXICOLOGICAL INFORMATION

Name	Based on: Methyl ethyl ketone peroxide 33%
Acute toxicity	
Oral LD50	rat: 1017 mg/kg (Methyl ethyl ketone peroxide 40%)
Dermal LD50	rat: 4000 mg/kg (Methyl ethyl ketone peroxide 40%)
Inhalation LC50	rat: 17 mg/l; 4 hours exposure time (Methyl ethyl ketone peroxide 40%)
Irritation	
Skin	Corrosive (33%)
Eye	Severely irritating/corrosive (Methyl ethyl ketone peroxide 33%)
Genotoxicity	Ames test: not mutagenic
Name	Based on: Dimethyl phthalate
Acute toxicity	
Oral LD50	Rat: > 2400 mg/kg
Dermal LD50	Rabbit: > 10.000 mg/kg
Inhalation LC50	9.3 mg/m ³ (6.5 hours)
Irritation	
Skin	Moderately irritating

Eye	Minimally irritating
Name	Based on: Methyl ethyl ketone
Acute toxicity	
Oral LD50	Rat: 2737 mg/kg
Dermal LD50	Rabbit 6480 mg/kg
Inhalation LC50	Rat: 23.5000 mg/m ³
Irritation	
Skin	Moderately irritating
Eye	Moderately irritating

12 ECOLOGICAL INFORMATION

Name	Based on: Methyl ethyl ketone peroxide 33%
Ecotoxicity	
fish	Acute toxicity, 96h-LC50 = 44.2 mg/l. (<i>Poecilia reticulata</i>).
bacteria	Activated sludge respiration inhibition test EC50 = 48.0 mg/l.
Fate	
Degradation Biotic	Readily biodegradable (closed bottle test).
Name	Based on: Dimethyl phthalate
Ecotoxicity	
fish	<i>Lepomis macrochirus</i> : 96h-LC50: 3.22 g/l
algae	<i>Selenastrum capricornutum</i> : 39.8 mg/l (96h-IC50)
Fate	
Degradation Biotic	Readily biodegradable
Other information	Bio Concentration Fact (BCF) fish 5.4 (24hours)

Name	Based on: Methyl ethyl ketone
Ecotoxicity	
Fish	Lepomis macrochirus: 96h-LC50: 3.22 g/l
Fate	
Degradation Biotic	Readily biodegradable
Other information	Naturally occurring substance.

13 DISPOSAL CONSIDERATIONS

Product	Probably in controlled incineration but according to local regulations. The waste should NOT be confined. Absorb the remainder with eg vermiculite.
Contaminated packaging	Collect for recycling or most probably controlled incineration.
Other information	Dilute before burning with organic solvents. Controlled incineration according to local regulations (eg burn in small portions on a remote place, using a torch with a long rod to ignite the material).

14 TRANSPORT INFORMATION

Land transport

ADR class	5.2	ADR item number	5b
RID class	5.2	RID item number	5b
Hazard Identification		Substance Identification	
No		No	
TREM-Card	CEFIC TEC(R)-52G01	UN Number	3105

Proper shipping name Organic peroxide type d, liquid; (Methyl ethyl ketone peroxide)

Other information**Sea Transport**

UN number	3105	Class	5.2
Packing Group	II	Marine Pollutant	No
EMS	5.2-01	MFAG	735
IMO/IMDG Code	Page 5225		
Proper shipping name	Organic peroxide type d, liquid; (Methyl ethyl ketone peroxide)		

Other information**Air transport**

IATA/ICAO-DGR		UN number	3105
Class		Packing group	II
Proper shipping name	Organic peroxide type d, liquid; (Methyl ethyl ketone peroxide)		

Other Information**15 REGULATORY INFORMATION**

Chemical identity Methyl ethyl ketone peroxide, in dimethyl phthalate

Labelling according to EC directives

EEC-number Not applicable

Classification based on

Symbol(s)	OXIDIZING	CORROSIVE
R(isk) phrase(s)	R7 R20/22 R34	May cause fire. Harmful by inhalation and if swallowed. Causes burns.

10

Safety phrase(s)	S3/7	Keep container tightly closed in a well-ventilated place.
	S14	Keep away from reducing agents eg amines, acids, alkalis, heavy metal compounds (eg accelerators, dryers, metal soaps).
	S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
	S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
	S50	Do not mix with peroxide accelerators. Do not mix with reducing agents.

Other information

Wassergefährdungsklasse (WGK) (Germany) 1 (Own classification)

16 OTHER INFORMATION

This information only concerns the above-mentioned product and does not need to be valid if used with other product(s) or in any process. The information is, to our best present knowledge, correct and complete and is given in good faith but without warranty. It remains the user's own responsibility to make sure that the information is appropriate and complete for his special use of this product.

History

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Composed by	A.R.M. Hesseling.	N. Groenendaal.
Changes were made in section		