

Health and Safety Data Sheet

Catalyst (Methyl Ethyl Ketone Peroxide)

1. Identification of the substance/preparation and of the company/undertaking

Chemical identity

Methyl ethyl ketone peroxide in dimethyl phthalate

Supplier

G & B (NW) Ltd, Giants Hall Farm, Standish, Wigan, WN6 8RY

Emergency telephone number

01942 518150

2. Hazards Identification



O

C

O = Oxidising
C = Corrosive

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

3. Composition / Information on Ingredients.

Number	% W/W	CAS number	Chemical Name
1	30-40	33.0 1338-23-4	Methyl ethyl ketone peroxide
2	30-40	131-11-3	Dimethyl phthalate
3	1.0	78-93-3	Methyl ethyl ketone (2-butanone)
4	15-25	93-58-3	Proprietary phlegmatiser
5	< 4	7722-84-1	Hydrogen Peroxide
6	< 2.0		Water

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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	606-002-003	F	R11
4	-	-	XN	R22
5	231-765-0	-	O C	R5, R8, R20/22, R35
6	-	-	-	-

4. First Aid Measures

Symptoms and effects

Harmful by inhalation and if swallowed. Causes burns. Risk of serious damage to eyes.

Affected Area

Action

General

In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.

Inhalation

Move to fresh air, rest and keep warm. If breathing is irregular or stopped, administer artificial respiration. Give nothing by mouth. If unconscious, place in recovery position and seek medical advice.

Skin contact

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

Eye

Irrigate copiously with clean, fresh water for at least 15 minutes, alternate 2% NaCO₃, holding apart the eyelids and seek medical advice if necessary.

Ingestion

If accidentally swallowed obtain immediate medical attention. Keep at rest. Drink milk or water. DO NOT induce vomiting.

5. Fire-Fighting Measures

This peroxide is hard to ignite but will burn vigorously with acceleration. Use water 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.

Recommendations

Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard. Appropriate breathing apparatus may be required. Cool closed containers exposed to fire with water. Do not allow run-off from fire fighting to enter drains or water courses.

Decomposition products see section 10.

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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

Provide adequate ventilation. Keep containers tightly closed when not in use. Do not use near food or drink. Avoid skin and eye contact. Avoid breathing vapours. Wear personal protection equipment recommended in section 8. 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. Dilution is not recommended. Never dilute with acetone.

Storage

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.

8. Exposure and Controls/ Personal Protection

Engineering measures

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. 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.

Exposure limits

Component	CAS-no.	Exp. limits / type	ACGIH - Type
Methylethyl ketone peroxide	1388-23-4	0.2 ppm / 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 (methylethyl ketone)	78-93-3	50 ppm / TWA	200 ppm / TLV

No EEC-list available.

TWA = Time Weighted Average

TLV = Threshold Limited Value

C = Ceiling Limited Value

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Respiratory Protection	Required if the limit like TLV are exceeded. Gas mask with filter A (brown, organic substances) may be necessary.
Hand	Wear suitable gloves of neoprene or synthetic rubber.
Eye	Wear eye/face protective clothes and gloves. 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

Respiratory Protection

Respiratory equipment is required if the limit like TLV is exceeded. Gas mask with filter A (brown, organic substances) may be necessary.

Hand Protection

Use gloves resistant of: butylrubber, ethylen-vinylalcohol, teflon.
Barrier creams may also help to protect the exposed areas of the skin, they should however not be applied once exposure has occurred

Eye Protection

Use safety eyewear designed to protect against splash of liquids. Splashes in the eyes may cause serious eye damage.

Skin Protection

Personnel should wear antistatic clothing made of natural fibre or of high temperature resistant synthetic fibre. All parts of the body should be washed after contact.

9. Physical and Chemical Properties

Physical State	Liquid
Flash Point (°C)	> 80 Method: Seta Flash
Viscosity at 20°C (mPas)	9-15
pH	4-7
Active Oxygen	9.6 - 9.8
Flash Point (°C)	60
Density at 20°C (g/cm ³)	1.13 - 1.16
Colour	Clear, colourless
Solubility in Water	Immiscible

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10. Stability and Reactivity

Stability

Stable when kept in original, closed container, out of direct sunlight at temperatures below 35°C. Decomposition of product due to heat or contamination may lead to fire or strong explosions. SADT 60°C.

Hazardous Reactions

Self-decomposition is catalysed by substances such as acids, strong bases, tert-amines, Friedel-Crafts catalysts and heavy metals.

Materials and conditions to avoid

Violent reactions can occur if the product comes in contact with cobalt accelerators or other peroxide accelerators / promoters, rust, heavy metal compounds, brass, galvanised steel, acetone, reducing or oxidising agents and strong acids or bases. Therefore these materials must be avoided. Grinding dust and dirt must be avoided as well. Avoid higher temperatures and direct sunlight. Confinement in stainless steel equipment (tanks, vessels, pipes etc.) must also be avoided.

Decomposition and decomposition products

Carbon Dioxide, Water, Acetic acid, Formic acid, Propanoic acid

11. Toxicological Information

There are no data available on the preparation itself.

Irritation data (Methyl ethyl ketone peroxide <45%)

Skin (rabbit)	500mg	AIHAAP 19, 205, 1958
Eye (rabbit)	3 mg	AIHAAP 19, 205, 1958

Irritation data (Methyl ethyl ketone peroxide <45%)

Oral (rat) LD-50	484mg/kg	AIHAAP 19, 205, 1958
Oral (mouse) LD-50	470mg/kg	AIHAAP 19, 205, 1958
Inhalation (rat) LC-50	200ppm/4h	AIHAAP 19, 205, 1958
Inhalation (mouse) LC-50	170ppm/4h	AIHAAP 19, 205, 1958

Toxicity Effects

This product is extremely irritant to the eyes, just a few drops may cause irreversible lesion and permanent injury of the cornea. If there is a skin contact, it might cause irritation, skin rash, swelling and chapping. The inhalation of its vapours causes cough, headache and irritation to the respiratory system. 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. The organic peroxides are dangerous for the organism since the peroxide oxygen is reduced to radical that induces into the cellular metabolism.

Skin contact

Strongly irritant. Causes burns.

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Eye contact

Strongly irritant, corrosive.

Ingestion

Harmful

Carcinogenic-Mutagenic-Reproductive effects

No evidence of these effects have been reported.

12. Ecological Information

Ecotoxicity (Methyl ethyl ketone peroxide 33%)

Fish	Acute toxicity, 96h-LC50 = 44.2mg/l (Poecilia reticulata)
Bacteria	Activated sludge respiration inhibition test EC50 = 48.0 mg/l
Degradation Biotic	Readily biodegradable (closed bottle test)

Ecotoxicity (Dimethylphthalate)

Algae	Selenastrum capricornutum, IC50 (96h) 39.8 mg/l
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Ecotoxicity (Methyl ethyl ketone)

Fish	Acute toxicity, 96h-LC50 = 3.22 mg/l (Lepomis Macrochirus)
Bacteria	Activated sludge respiration inhibition test EC50 = 48.0 mg/l
	Readily biodegradable (closed bottle test)

This product is readily biodegradable and is not toxic to aquatic organisms.

13. Disposal Considerations

Do not allow into drains or water courses. Water and emptied containers should be handled according to local regulations.

The producer recommends destruction of both peroxide rests and empty packaging by combustion under controlled forms.

14. Transport information

Proper Shipping Name: Organic peroxide type D, liquid (Methyl ethyl ketone peroxide)	
UN3105	Class: 5.2
	Label: 5.2
	Packaging group: II
Marine pollutant: No	EmS No: F-J, S-R

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15. Regulatory Information



O

C

Danger Classification: O = Oxidising
C = Corrosive

R phrases

R7	May cause fire.
R20/22	Harmful if swallowed.
R34	Causes burns.

Safety phrase(s)

S3/7	Keep container closed in a well-ventilated place.
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.

16. Other information

In addition from section 2:

Methylethylketone peroxide. Symbol E, C

R2	Risk of explosion by shock, friction, fire and other sources of ignition
R22	Harmful if swallowed
R34	Causes burns

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

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Methylethylketone. Symbol F, Xi

R11	Highly flammable
R36	Irritating to eyes
R66	Repeated exposure may causes skin dryness or cracking
R67	Vapours may cause drowsiness and dizziness

Proprietary Phlegmatiser. Symbol Xn

R22	Harmful if swallowed
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