

## MATERIAL SAFETY DATA SHEET

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

SUPPLIER: METPREP LTD.  
CURRIERS CLOSE  
CHARTER AVENUE  
COVENTRY CV4 8AW

TELEPHONE: PRODUCT INFORMATION: 024 7642 1222

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CHEMICAL NAME: Methyl ethyl ketone peroxide, 33% in diethyl phthalate

PRODUCT: KLEER SET HARDENER

PRODUCT NUMBERS: 11 10 89

### 2. COMPOSITION / INFORMATION ON INGREDIENTS

CHEMICAL NATURE: Methyl ethyl ketone peroxide, 33% in diethyl phthalate

INGREDIENT (S):	CAS NUMBER:	%:	HAZARD SYMBOL:	R PHRASES:
Methyl ethyl ketone peroxide	1338-23-4	33.0	C E	R2, 22, 34,7
Dimethyl phthalate	131-11-3	63.0	None	None
Methyl ethyl ketone	78-93-3	1.0	F Xi	R11, 36, 37

### 3. HAZARDS IDENTIFICATION

May cause fire.  
Harmful if swallowed.  
Causes burns

### 4. FIRST AID MEASURES

GENERAL INFORMATION: Harmful if swallowed. Causes burns. Risk of serious damage to eyes. Seek medical advice immediately.

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.

SKIN: Remove contaminated clothing. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

EYE: Irrigate copiously with clean, fresh water for at least 10 minutes, holding eyelids apart. Seek medical advice.

INGESTION: Only when conscious, rinse mouth, give plenty of water to drink (approx 500ml). DO NOT induce vomiting. Seek medical attention

### 5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: alcohol resistant foam, CO<sub>2</sub>, powders, water spray. Keep fire exposed containers cool by spraying with water.

UNSUITABLE MEDIA: Halones

FIRE & EXPLOSION HAZARDS: If involved in fire, it will support combustion. In case of fire and/or explosion do not breathe fumes. Carbon dioxide, water, acetic acid, formic acid, propanoic acid, methyl products ethyl ketone.

FIRE FIGHTING PROTECTIVE EQUIPMENT: Fire will produce dense black smoke. Exposure to decomposition products may cause 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 watercourses.

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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) reuse or disposal. Do not empty into drains.

Methods for cleaning up: The waste should not be confined. Absorb the remainder with e.g. vermiculite.

### 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 pipette by mouth. Do not inhale. Never bring peroxide into direct contact with accelerator during processing. Weigh out and add peroxide and accelerator separately. No smoking.

**STORAGE:** Keep away from reducing agents (eg. amines), acids, alkalis and heavy metal compounds (eg. accelerators, driers, metal soaps). Store in accordance with local 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.

**STORAGE TEMPERATURE:** Preferably not exceeding 20 °C.

**INDUSTRIAL HYGIENE PRACTICES:** Wash face and hands thoroughly with the soap and water after use and before eating, drinking, smoking or applying cosmetics.

### 8. EXPOSURE CONTROL / PERSONAL PROTECTION

#### Engineering Measures.

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

#### Exposure Limits.

Methyl ethyl ketone peroxide	OES-STEL	1.5 mg/m <sup>3</sup>
Methyl ethyl ketone	OES-TWA	590.0 mg/m <sup>3</sup>
	OES-STEL	885.0 mg/m <sup>3</sup>

#### Personal Protection.

Respiratory protection: Do not breathe vapour. Ensure good ventilation and local exhaustion of the working area.  
 Hand protection: Wear suitable gloves of neoprene or synthetic rubber.  
 Eye protection: Wear eye/face protection. A face shield is preferred to goggles.  
 Skin protection: Wear suitable protective clothing and gloves. Take off contaminated clothing immediately

### 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	liquid	
Colour:	clear and colourless	
Odour:	faint	
Boiling point:	do not distil (decomposes)	
Melting point:	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 <sup>3</sup> (20 °C)	
Solubility in water:	Partly miscible in water	

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Solubility in other solvents:	phthalates
pH value	weak acid
Viscosity	approx 20 mPa. s (20 °C)
Active oxygen content	8.8 - 9.0 %
Peroxide content	33.0 %
SADT	60 °C

**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:	Acetic acid, formic acid, propanoic acid, methyl ethyl ketone.

**11. TOXICOLOGICAL INFORMATION**

Name:	Methyl ethyl ketone peroxide
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 (methyl ethyl ketone peroxide 33%)
Eye	Severly irritating/Corrosive (methyl ethyl ketone peroxide 33%)
Genotoxicity	Ames test: not mutagenic

Name:	Dimethyl phthalate
Acute toxicity:	
Oral LD50	rat > 2400 mg/kg
Dermal LD50	rabbit: > 10,000 mg/kg
Inhalation LC50	9300 mg/m <sup>3</sup> (6.5 hours)
Irritation:	
Skin	moderately irritating
Eye	minimally irritating

Name:	methyl ethyl ketone
Acute toxicity:	
Oral LD50	rat : 2737 mg/kg
Dermal LD50	rabbit:6480 mg/kg
Inhalation LC50	rat 23.5000 mg/m <sup>3</sup>
Irritation:	
Skin	moderately irritating
Eye	minimally irritating

**12. ECOLOGICAL INFORMATION**

Name	Based on: Methyl ethyl ketone peroxide 33%
Ecotoxicity	
Fish	Acute toxicity, 96h LC50 = 44.2 mg/l (Poecilla reticulata.)
Bacteria	Activated sludge respiration inhibition test EC50 = 48.0 mg/l

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Fate:	Degradation Biotic	Readily biodegradable (Closed bottle test)
Name	Based on: Dimethyl phthalate	
Ecotoxicity		
	Fish	Lepomis macrochirus: 96h LC50: 3.22 g/l
	Algae	Selenastrum capricornutum : 39.8 mg/l (96h IC50)
Fate:	Degradation Biotic	Readily biodegradable
Other information	Bio concentration factor (BCF) fish 5.4 (24 hours)	

Name	Methyl isobutyl ketone	
Ecotoxicity		
	Fish	Pimephales promelas: 96h LC50: 505 mg/l
Fate:	Degradation Biotic	Readily biodegradable
Other information	Bio concentration factor (BCF) = 1.19	

**13. DISPOSAL CONSIDERATIONS**

Product: Probably in controlled incineration but according to local regulations. The waste should not be confined.  
Absorb the remainder with e.g. 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 is always preferred. If not possible burn in small portions on a remote place, using a torch with a long rod to ignite the material.

**14. TRANSPORTATION**

Land Transport:	ADR Class	5.2	ADR Item number	5b
	RID Class	5.2	RID Item number	5b
	Hazard Ident No.		Substance Ident No.	
	TREM-Card	CEFIC TEC(R) 52G01	UN number	3105
Sea Transport	Proper shipping name:	Organic peroxide type d, liquid; (Methyl ethyl ketone peroxide)		
	UN number	3105	Class	5.2
	Packing group	II	marine pollutant	no
	EMS	5.2-01	MFAG	735
	IMO/IMDG code	page 5225a		
Air Transport	Proper shipping name:	Organic peroxide type d, liquid; (Methyl ethyl ketone peroxide)		
	IATA/ICAO-DGR		UN number	3105
	Class	5.2	Packing group	II
	Proper shipping name:	Organic peroxide type d, liquid; (Methyl ethyl ketone peroxide)		

**15. REGULATORY INFORMATION**

EC REGULATIONS –

Danger classification:    **Oxidising**            **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-14:	Keep away from reducing agents
	S-36/37/39:	Wear suitable protective clothing, gloves and eye/face protection.
	S-45:	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)
	S-50:	Do not mix with peroxide-accelerators or reducing agents.

**MATERIAL SAFETY DATA SHEET****16. ADDITIONAL INFORMATION**

This data sheet was prepared in accordance with Directive 91/155/EEC.

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