

## 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:

PRODUCT: KRYSTAL KLEER LIQUID

PRODUCT NUMBERS: 11 10 55

### 2. COMPOSITION / INFORMATION ON INGREDIENTS

CHEMICAL NATURE: Preparation based on Methyl Methacrylate.

INGREDIENT (S):	CAS NUMBER:	%:	HAZARD SYMBOL:	R PHRASES:
Methyl Methacrylate	80-62-6	60-100	F,Xi	11,36/37/38-43

### 3. HAZARDS IDENTIFICATION

Highly flammable. Irritating to eyes, respiratory system and skin. May cause sensitisation by skin contact.

### 4. FIRST AID MEASURES

GENERAL INFORMATION: Remove contaminated or saturated clothing immediately.

**INHALATION:** Possible discomfort. Irritation of mucous lining (nose, throat, eyes) cough, sneezing, flow of tears. Take affected persons out into fresh air. In case of persistent discomfort seek medical attention.

**SKIN:** When contact with skin, flush affected areas with ethanol polyethylene glycol 300 mixture (1:2) and rinse thoroughly with soap and water. Then apply polyethylene glycol 400 (eg Lutrol) copiously. If skin, lips or fingernails become discoloured, apply oxygen. Refrain from alcohol consumption and physical exertion. Consult a doctor.

**EYE:** Irrigate with eyewash solution or clear water, holding the eyelids apart, for at least 5 minutes. Obtain immediate medical attention.

**INGESTION:** Do not induce vomiting. Wash out mouth with water and give 200-300 ml (half a pint) of water to drink. Obtain medical attention. Never give anything by mouth to an unconscious person. Call a physician.

**INSTRUCTIONS FOR DOCTOR** At onset of cyanosis (lips, ear lobes, finger nails) give oxygen as quickly as possible

### 5. FIRE FIGHTING MEASURES

**EXTINGUISHING MEDIA:** Dry Sand, foam, dry powder or CO<sub>2</sub>. Keep fire exposed containers cool by spraying with water.

**UNSUITABLE MEDIA:** Full water jet

**PARTICULAR DANGER CAUSED BY MATERIAL, ITS COMBUSTION PRODUCTS OR GASES PRODUCED:** Formation of flammable or explosive vapour/air mixtures possible. In the case of fire Methyl Methacrylate may be released.

**FIRE FIGHTING PROTECTIVE EQUIPMENT:** A self-contained breathing apparatus and suitable protective clothing should be worn in fire conditions.

**ADDITIONAL INFORMATION:** Product is highly flammable.

Keep away from sources of ignition. Do not smoke. Caution electrostatic charge may occur.

### 6. ACCIDENTAL RELEASE MEASURES

Eliminate sources of ignition. Ensure suitable personal protection (including respiratory protection) during removal of spillages. Prevent entry into drains. Adsorb spillages onto sand, earth or any suitable adsorbent material. Do not adsorb onto sawdust or other combustible materials. Transfer to a container for disposal or recovery.

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### 7. HANDLING AND STORAGE

**HANDLING:** Avoid contact with skin and eyes.  
Avoid inhalation of high concentration of vapors. Use only in well ventilated areas.  
The vapour is heavier than air; beware of pits and confined spaces. Take precautionary measures against static discharges.

**STORAGE:** Keep only in original container. Store in cool dry place away from heat, sparks, flame and direct sunlight.  
Keep container closed to prevent water absorption and contamination. Keep away from sources of ignition  
– No Smoking. Ensure there is good room ventilation.

**STORAGE TEMPERATURE:** Preferably not exceeding 25 °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

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

Considerations should be given to the work procedures involved and the potential extent of exposure as they may determine whether a higher level of protection is required.

The following information is given as general guidance.

**RESPIRATORS:** Wear suitable respiratory protective equipment if exposure to levels above the occupational exposure limit is likely. A suitable mask with filter type A may be appropriate. In the event of formation of particularly high levels of vapor a self-contained breathing apparatus may be appropriate.

**EYE PROTECTION:** Safety glasses or chemical splash goggles.

**GLOVES:** Wear suitable gloves. Rubber or latex gloves offer the best protection. Gloves should be changed regularly and if excessive exposure has occurred.

**OTHER:** Wear suitable protective clothing.

**OCCUPATIONAL EXPOSURE LIMITS:**

<b>HAZARDOUS INGREDIENT (S):</b>	<b>TLV (TWA):</b>	<b>TLV (STEL):</b>
Methyl Methacrylate	410 mg/m <sup>3</sup>	510 mg/m <sup>3</sup>

### 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>FORM:</b>	Liquid
<b>COLOUR:</b>	Colourless
<b>ODOUR:</b>	Ester like
<b>PH</b>	NA at 20 ° C
<b>BOILING POINT:</b>	100 ° C
<b>MELTING POINT:</b>	-48 ° C
<b>FLASH POINT:</b>	10 ° C
<b>IGNITION TEMPERATURE:</b>	430 ° C
<b>EXPLOSION LIMITS DATA for methyl methacrylate in air DIN51794</b>	
Lower	2.1Vol - % Methyl Methacrylate
Upper	12.5 Vol - % Methyl Methacrylate
<b>VAPOUR PRESSURE:</b>	40 hPa at 20 ° C Methyl Methacrylate
<b>DENSITY:</b>	0.95 g/cm <sup>3</sup>
<b>WATER SOLUBILITY:</b>	~10 g/l Methyl Methacrylate
<b>VISCOSITY:</b>	~ 2 mPa*s

### 10. STABILITY AND REACTIVITY

**STABILITY:** Stable

**CONDITIONS TO AVOID:** Heat, sun rays, light effect substances to be avoided. Product polymerizes on contact with radical generating substances such as peroxides, azo compounds, and heavy metals compounds.

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HAZARDOUS DECOMPOSITION PRODUCTS:

HAZARDOUS POLYMERIZATION: Can occur.

CONDITIONS TO AVOID FOR HAZARDOUS POLYMERIZATION: Excessive heat, storage in absence of inhibitor; inadvertent addition of catalyst.

### 11. TOXICOLOGICAL INFORMATION

Acute toxicity

LD/LC 50 values to classification

Methyl Methacrylate

Acute dermal toxicity: LD 50 > 9400 mg/kg, rabbit, literature

Acute inhalation toxicity: LC 50 = 29.5 mg/1/4h, rat, literature

Acute oral toxicity: LD 50 = 8000 mg/kg, rat, literature.

Primary irritative effect methyl methacrylate:

Primary irritative effect to skin: Non irritative, rabbit, OECD 404

Mutagenicity

Dos/concentration non-mutagenic

10000 up/plate

Metabolic activation

+/-

Species/test system Salmonella typhimurium Ames Test Source Lit

mutagenic

Metabolic activation

+/-

Species/test system mouse lymphona L5178 Y TK +/- cells Mouse lymphona Test Source Lit

Slight increase in SCEs

Metabolic activation

+/-

Species/test system CHO cells SCE Test Source Lit

No increase in SCE rate up to cytotoxic concentrations

Species/test system human lymphocytes SCE Test Source Lit

No increase in the number of micronuclei

Application method oral

Dos/concentration 4520 mg/kg

Application interval 1 dose

Species/test system mouse micro-nucleus test/OECD 474 Source Lit

No increase in the number at micronuclei

Dos/concentration 1130 mg/kg

Application interval 4 doses

Species/test system mouse micro-nucleus test/OECD 474 Source Lit

Non-mutagenic

Application method inhalational

Application interval 6 h/d

Application period 5 d

Species/test system CD-1 mouse(male) dominant lethal test Source Lit

The above data refers to the component methyl methacrylate

#### Teratogenicity

No indications of toxic effects were observed in reproduction studies in animals.

Application method inhalational

Dosage 2028 ppm

Application period 6 to 15 d qest.

Species rat

Method OECD 414

Source literature

The data mentioned above refer to the component methyl methacrylate

#### Carcinogenicity

Non-carcinogenic in inhalation and feeding studies carried out on rats, mice and dogs.

Source literature

The data mentioned above refer to the component methyl methacrylate.

#### Chronic toxicity

Application method inhalational

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Dosage 250 to 1000 ppm  
 Application interval 6 h/d, 5 d/w  
 Application period 2 a  
 Species rat  
 Source literature  
 Findings: Damage to the mucous membranes n nose, throat and lungs.  
 Degeneration at the olfactory epithelium.  
 The data mentioned above refer to the component methyl methacrylate.

**Chronic toxicity**

Application method inhalational  
 Dosage 500 to 1000 ppm  
 Application interval 6 h/d, 5d/w  
 Application period 2 a  
 Species mouse  
 Source literature  
 Findings: Damage to the mucous membranes in nose, throat and lungs.  
 Degeneration at the olfactory epithelium  
 The data mentioned above refer to the component methyl methacrylate.

**Further information on toxicology**

There are no toxicological data available for the product as such  
 Carefully avoid contact with skin and eyes as well as inhalation of product vapours.

**12. ECOLOGICAL INFORMATION**

Information on elimination (persistence and degradability)

**Biodegradability**

30.7%  
 Duration of test 28 d  
 Method OECD 301C > 95%  
 Method test according to Zahn/Wellens  
 Source literature  
 The product is not readily biodegradable to OECD criteria but is inherently biodegradable.

**Ecotoxicological effect**

Fish toxicity (LC50)  
 > 79 mg/l  
 Length at exposure 96 h  
 Species oncorhynchus mykiss, rainbow trout  
 Method OECD 203/ISO 7346/EEC84/449/V,C1  
 Source literature

Fish toxicity (BOEC)  
 40 mg/l  
 Length at exposure 96 h  
 Species oncorhynchus mykiss, rainbow trout  
 Method OECD 203/ISO 7346/EEC84/449/V,C1  
 Source literature

Daphnia toxicity (EC50)  
 69 mg/l  
 Length of exposure 48 h  
 Species daphnia magna  
 Method OECD 202/ISO 6341/EEC84/449/V,C2  
 Source literature

Algae toxicity (EC3)  
 37 mg/l  
 Length of exposure 8 d  
 Species scenedesmus quadricauda  
 Method DIM 38412 part 9  
 Source literature

Algae toxicity (EC50)

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Length of exposure 170 mg/l  
4 d  
Species selenastrum capricornutum  
Method OECD 201/ISO 8692/EEC88/302/V,C  
Source literature

Bacteria toxicity (ECO) 100 mg/l

Species pseudomonas putida  
Further information on ecology  
The data mentioned above refer to the component methyl methacrylate.  
Do not allow to enter soil, waterways or waste water

### 13. DISPOSAL CONSIDERATIONS

#### Product

Waste is hazardous and therefore particularly to be kept under surveillance. It must be disposed Of in accordance with the regulations after consultation of the competent local authorities and The disposal company in a suitable and licensed facility.

### 14. TRANSPORTATION

#### Overland transport

UN No. road/rail 1247  
GGVS  
Class, item 3b  
ADR  
Class 3, item 3b  
GGVE  
Class 3, item 3b  
RID  
Class 3, item 3b  
GGVS/ADR-designation  
1247 methyl methacrylate, monomer, inhibited, solution  
GVE/RID-designation  
1247 methyl methacrylate, monomer, inhibited, solution  
Hazard no. 339 Substance no. 1247  
Packaging group 9land) II

#### Inland waterways transport

ADNR  
Class3, item 3b  
Marking for inland waterway transport  
1247 methyl methacrylate, monomer, inhibited, solution  
Packaging gr. (inland waterway transport) II

#### Shipment by sea

UN No. sea 1247  
IMDG/GGVSee-code  
Class 3.2  
EmS 3-07  
MFAG 330  
Marine pollution  
Packed (=0) 0

Correct technical name  
Methyl methacrylate, monomer, inhibited  
Proper shipping name  
Methyl methacrylate, monomer, inhibited  
Packaging group (sea) II

#### Air transport

UN-/ID-No 1247  
ICAO/IATA-classification 3  
Correct technical name  
Methyl methacrylate, monomer, inhibited  
Proper shipping name

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Methyl methacrylate, monomer, inhibited  
Packaging group (air) II

**Transport/further information**

DOT

NA-/UN-NO 1247

Methyl methacrylate, monomer, inhibited

**15. REGULATORY INFORMATION**

EC REGULATIONS –

EINECS: all chemical listed

EEC Classification: FLAMMABLE AND IRRITANT  
Symbol: Indication of Danger

F Highly Flammable



Xi Irritant

Risk Phrases: R11 Highly Flammable  
R36/37/38. Irritating to eyes, respiratory system and skin.  
R43. May cause sensitization by skin contact.

Safety Phrases: S9. Keep container in well-ventilated place.  
S16. Keep away from sources of ignition. Do not smoke.  
S29. Do not empty into drains.  
S33. Take precautionary measures against static discharge

**16. ADDITIONAL INFORMATION**

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

The above information has been gathered from reliable sources and is believed to be correct. However, the information is provided without any warranty, either expressed or implied. MetPrep Ltd shall not be held liable for any damage resulting from the handling of or contact with the above product.