



MATERIAL SAFETY DATA SHEET

PRODUCT NUMBER: 11 10 55

SECTION 1 PRODUCT IDENTIFICATION AND MANUFACTURE

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

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PRODUCT: CRYSTAL-KLEER LIQUID

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**

Flam. Liq. 2 H225 Highly flammable liquid and vapour.

Skin Irrit. 2 H315 Causes skin irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

STOT SE 3 H335 May cause respiratory irritation.

- **2.2 Label elements**

- **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

- **Hazard pictograms**



GHS02



GHS07

- **Signal word** *Danger*

- **Hazard-determining components of labelling:**

methyl methacrylate

tetramethylene dimethacrylate

- **Hazard statements**

H225 Highly flammable liquid and vapour.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H335 May cause respiratory irritation.

- **Precautionary statements**

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P321 Specific treatment (see on this label).

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Labelling of packages where the contents do not exceed 125 ml**

- **Hazard pictograms**



GHS02



GHS07

- **Signal word** *Danger*

- **Hazard-determining components of labelling:**

methyl methacrylate

tetramethylene dimethacrylate



· **Hazard statements**

H317 May cause an allergic skin reaction.

· **Precautionary statements**

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P321 Specific treatment (see on this label).

P363 Wash contaminated clothing before reuse.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

SECTION 3 SUBSTANCE HAZARD IDENTIFICATION

· **3.2 Chemical characterisation: Mixtures**

· **Description:** Liquid based on methacryl acid ester, containing an activator.

· **Dangerous components:**

CAS: 80-62-6 methyl methacrylate

EINECS: 201-297-1  Flam. Liq. 2, H225;  Skin Irrit. 2, H315; Skin Sens. 1, H317; 75-100%
STOT SE 3, H335

CAS: 2082-81-7 tetramethylene dimethacrylate 2.5-10%

EINECS: 218-218-1  Skin Sens. 1B, H317

· **Additional information** For the wording of the listed risk phrases refer to section 16.

SECTION 4 FIRST AID MEASURES

· **4.1 Description of first aid measures**

· **General information** Immediately remove any clothing soiled by the product.

· **After inhalation**

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact**

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

· **After eye contact**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing**

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; call for medical help immediately.

· **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

· **4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

SECTION 5 FIRE FIGHTING MEASURES

· **5.1 Extinguishing media**

· **Suitable extinguishing agents**

Water haze

Foam

Fire-extinguishing powder

Carbon dioxide



- **For safety reasons unsuitable extinguishing agents** Water with full jet.
- **5.2 Special hazards arising from the substance or mixture** Can form explosive gas-air mixtures.
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.
- **Additional information**

Cool endangered receptacles with water spray.

Collect contaminated fire fighting water separately. It must not enter the sewage system.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations. · **Protective equipment:** No special measures required.

SECTION 6 ACCIDENTAL RELEASE MEASURES

· 6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation

Wear protective clothing.

Avoid eye and skin contact with the substance.

Wear protective equipment. Keep unprotected persons away.

Keep away from ignition sources

· 6.2 Environmental precautions:

Prevent seepage into sewage system, workpits and cellars.

Do not allow to enter sewers/ surface or ground water.

· 6.3 Methods and material for containment and cleaning up:

Send for recovery or disposal in suitable receptacles.

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

· 6.4 Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7 HANDLING AND STORAGE

· 7.1 Precautions for safe handling

Keep away from heat and direct sunlight.

Ensure good ventilation/exhaustion at the workplace.

· Information about fire - and explosion protection:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

· 7.2 Conditions for safe storage, including any incompatibilities

· Storage

· Requirements to be met by storerooms and receptacles:

Close container immediately after use and protect product from light incidence.

Storage between 10 °C and 25 °C.

· Information about storage in one common storage facility: Store away from foodstuffs. · Further information about storage conditions:

Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

· 7.3 Specific end use(s) No further relevant information available.

SECTION 8 EXPOSURE CONTROL/PERSONAL PROTECTION

· **Additional information about design of technical facilities:** No further data; see item 7.

· 8.1 Control parameters

· **Ingredients with limit values that require monitoring at the workplace:**

80-62-6 methyl methacrylate

WEL Short-term value: 416 mg/m³, 100 ppm

Long-term value: 208 mg/m³, 50 ppm

· **Additional information:** The lists valid during the making were used as basis.



· **8.2 Exposure controls**

· **Personal protective equipment**

· **General protective and hygienic measures**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

Not necessary if room is well-ventilated.

Use suitable respiratory protective device when high concentrations are present.

Filter A

· **Protection of hands:** Protective gloves.

· **Material of gloves** Butyl rubber, BR

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:** Safety glasses

· **Body protection:**

Solvent resistant protective clothing (Only when handling large quantities)

SECTION 9

PHYSICAL AND CHEMICAL PROPERTIES

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Fluid

Colour: Colourless

· **Odour:** Ester-like

· **Odour threshold:** Not determined.

· **pH-value:** Not determined

· **Change in condition**

Melting point/Melting range: -48 °C

Boiling point/Boiling range: 101 °C

· **Flash point:** 10 °C

· **Flammability (solid, gaseous)** Not applicable.

· **Ignition temperature:** 430 °C

· **Decomposition temperature:** Not determined.

· **Self-igniting:** Product is not selfigniting.

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· **Explosion limits:**

Lower: 2.1 Vol %

Upper: 12.5 Vol %

· **Vapour pressure at 20 °C:** 47 hPa

· **Density at 20 °C:** 0.945 g/cm³

· **Relative density** Not determined.

· **Vapour density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with**

Water: Not miscible or difficult to mix

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

dynamic: Not determined

kinematic: Not determined

· **9.2 Other information** No further relevant information available.



SECTION 10

STABILITY AND REACTIVITY PROPERTIES

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions**
Reacts with peroxides and other radical forming substances
Danger of polymerization
Reacts with reducing agents
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:**
In presence of radical formers (e. g. peroxides), deoxidizing substances, and/or heavy metal ions, polymerization with heat release is possible.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known

SECTION 11

TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

- **Acute toxicity**
- **LD/LC50 values relevant for classification:**
methyl methacrylate LD-50 oral >5000 mg/kg rat (lit.)
LD-50 inhalativ 7093 ppm/4h rat (lit.)
- **Primary irritant effect:**
- **Skin corrosion/irritation** Irritant to skin and mucous membranes.
- **Serious eye damage/irritation** No irritating effect.
- **Respiratory or skin sensitisation** Sensitisation possible through skin contact.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version.
Irritant
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** May cause respiratory irritation
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12

ECOLOGICAL INFORMATION

12.1 Toxicity

- **Aquatic toxicity:** No further relevant information available.
- **Type of test Effective concentration Method Assessment**
Toxicity to fish: LC-50: >79 mg/l OECD 203
(MMA) NOEC: 40 mg/l ISO 7346
Time: 96 h EEC84
Species:
Oncorhynchus mykiss
Toxicity to Micro- ECO: 100 mg/l starting inhibition
Organisms Species: of cell growth
(MMA) Pseudomonas putida
- **12.2 Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Components:**
methyl methacrylate Biodegradability: 30,7 %
Time: 28 d
Method: OECD 301 C
Valuation: difficult to decompose
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.



· **Additional ecological information:**

· **General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

· **12.5 Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **12.6 Other adverse effects** No further relevant information available.

SECTION 13

DISPOSAL CONSIDERATIONS

· **13.1 Waste treatment methods**

· **Recommendation**

Must be specially treated adhering to official regulations.

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **European waste catalogue**

07 01 04* other organic solvents, washing liquids and mother liquors

· **Uncleaned packaging:**

· **Recommendation:** Disposal must be made according to official regulations.

SECTION 14

TRANSPORT INFORMATION

· **14.1 UN-Number**

· **ADR, IMDG, IATA UN1247**

· **14.2 UN proper shipping name**

· **ADR 1 2 4 7 METHYL METHACRYLATE MONOMER,**

STABILIZED mixture

· **IMDG, IATA METHYL METHACRYLATE MONOMER, STABILIZED**

mixture

· **14.3 Transport hazard class(es)**

· **ADR**



· **Class 3 (F1) Flammable liquids.**

· **Label 3**

· **IMDG, IATA**



· **Class 3 Flammable liquids.**

· **Label 3**

· **14.4 Packing group**

· **ADR, IMDG, IATA II**

· **14.5 Environmental hazards:**

· **Marine pollutant:** No

· **14.6 Special precautions for user** Warning: Flammable liquids.

· **Danger code (Kemler):** 339

· **EMS Number:** F-E,S-D

· **14.7 Transport in bulk according to Annex II of**

MARPOL73/78 and the IBC Code Not applicable.

· **Transport/Additional information:**

· **ADR**

· **Limited quantities (LQ)** 1L

· **Excepted quantities (EQ)** Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· **Transport category** 2



- **Tunnel restriction code** D/E
- **IMDG**
- **Limited quantities (LQ)** 1L
- **Excepted quantities (EQ)** Code: E2
- Maximum net quantity per inner packaging: 30 ml
- Maximum net quantity per outer packaging: 500 ml
- **UN "Model Regulation":** UN1247, METHYL METHACRYLATE MONOMER, STABILIZED mixture, 3, II

SECTION 15	REGULATORY INFORMATION
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- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **National regulations**
- **Information about limitation of use:**
Employment restrictions concerning juveniles must be observed.
Employment restrictions concerning pregnant and lactating women must be observed.
- **Technical instructions (air):**
- Class Share in %**
III 2,5-10
NK 75-100
- **Waterhazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16	OTHER INFORMATION
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This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**
H225 Highly flammable liquid and vapour.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
- **Department issuing MSDS:** F&E GDF GmbH
- **Contact:** Dr. U. Krichbaum
- **Abbreviations and acronyms:**
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
Flam. Liq. 2: Flammable liquids, Hazard Category 2
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
Skin Sens. 1B: Sensitisation - Skin, Hazard Category 1B
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3.
- *** Data compared to the previous version altered.**