

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

SUPPLIER: METPREP LTD.
CURRIERS CLOSE
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CHEMICAL NAME:

PRODUCT: EXPANDOSET LIQUID

PRODUCT NUMBERS: 11 10 75

2. COMPOSITION / INFORMATION ON INGREDIENTS

CHEMICAL NATURE: Preparation based on Methyl Methacrylate and Styrene.

INGREDIENT (S):	CAS NUMBER:	%:	HAZARD SYMBOL:	R PHRASES:
Methyl Methacrylate	80-62-6	20-60	F,Xi	11,36/37/38-43
Styrene	100-42-5	1-10	Xn	10,20,36/38

3. HAZARDS IDENTIFICATION

F Highly Flammable and Xi Irritant

Special guidelines concerning dangers to humans and the environment. Harmful by inhalation.

May cause sensitisation by skin contact.

Explosive vapour-air mixtures. Vapours are heavier than air.

Danger of bursting of closed systems to vigorous exothermic polymerization. Avoid uncontrolled polymerization.

Further information. Product polymerizes on contact with radical generating substances such as peroxides, azo compounds & heavy metal compounds

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, rinse immediately with soap and water.

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: dexamethasone aerosol dosing spray (eg auxilosone) paraffinum subliquidum

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Dry Sand, foam, dry powder or CO₂. 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 and Styrene may be released.

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

ADDITONAL INFORMATION: Product is highly flammable.

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Keep away from sources of ignition. Do not smoke. Caution electrostatic charge may occur. Usual measures for chemical fires. In case of fire, cool containers or take them to a safe place. Danger of polymerisation. Water used to extinguish fire should not enter the drainage systems, soil, or stretches of water. Fire residues should be disposed of in accordance with the regulations. Ensure there are sufficient retaining facilities for water used to extinguish the fire. Contaminated fire-extinguishing water must be disposed of in accordance with the regulations issued by the appropriate local authorities.

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.

7. HANDLING AND STORAGE

HANDLING: Avoid contact with skin and eyes. Stir and shake well before use. 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:

HAZARDOUS INGREDIENT (S):	TLV (TWA):	TLV (STEL):
Styrene	215 mg/m ³	425 mg/m ³
Methyl Methacrylate	410 mg/m ³	410 mg/m ³

9. PHYSICAL AND CHEMICAL PROPERTIES

FORM: Liquid

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COLOUR:	Blue
ODOUR:	Characteristic
PH	NA at 20 ^o C
BOILING POINT:	100 ^o C
MELTING POINT:	-55 ^o C
FLASH POINT:	13.3 ^o C close up
IGNITION TEMPERATURE:	421 ^o C methyl methacrylate
EXPLOSION LIMITS DATA for methyl methacrylate and Styrene in air from 200 ^o C and 1013 hPa	
Lower	2.1Vol - % Styrene
Upper	12.5 Vol - % Methyl Methacrylate
VAPOUR PRESSURE:	6 hPa at 20 ^o C Styrene
	47 hPa at 20 ^o C Methyl Methacrylate
DENSITY:	~ 1.0 g/cm ³
WATER SOLUBILITY:	very slightly soluble
VISCOSITY:	NA

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.

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.

Styrene

Acute oral toxicity: LD 50 = 5000 mg/kg, rat.

Primary irritative effect methyl methacrylate:

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

Sytrene

Primary irritative effect to skin: Irritant, species not given

Primary irritative effect to eyes: Irritant, species not given

Subacute to chronic toxicity

Methyl methacrylate

Rat, dog, oral, 2 years

NOEL: (4.16 – 8.32) mg/l

12. ECOLOGICAL INFORMATION

Methyl methacrylate

Environmental hazard: Classification Group III material with, based on current knowledge, low potential for hazard.

Date of elimination (persistence and degradability)

Degradation (28 days) = 33.7%, not easily biodegradable, OECD 301C.

Eco toxic effects

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Bacterial toxicity: Pseudomonos putida, initial inhibition of cell multiplication at 100> mg/l, evaluation on water pollutive substances UBA.

Aquatic toxicity
Methyl methacrylate
Acute toxicity: LC 50 (48 h) = 350 mg/l, leuciscus idus melanotus, literature
Styrene
Acute fish toxicity: LC 50 (96 h) app. 100 mg/l, carassius auratus, literature
Acute fish toxicity: LC 50 app. 255 mg/l, Daphnia magna, literature.

13. DISPOSAL CONSIDERATIONS

Product: Dispose of in a special refuse tip, according to local regulations.

European Waste catalogue(EWC) 07 02 99: Waste not otherwise specified
May be disposed of as household waste after polymerisation, if the necessary technical regulations are observed and after consulting the disposer and the responsible authority.

European Waste catalogue(EWC) 17 02 03: Plastic

Packaging: Contaminated packaging material should be disposed of identical to the product itself.
Untamminated packaging material should be re-used or treated as household waste.

Contaminated packaging Can be burned in accordance with local regulations

Recommended cleaning agent

14. TRANSPORTATION

Road transport: GGVE Class 111, ch. 31
RID Class 111, ch. 31
ADR Class 111, ch. 31
Orange warning plate 30/1866

Description of substance: 1866 resin solution contains methyl methacrylate,
GGVS/ADR measures according to Rn. 2300 (6) were taken
GGVE/RID measures according to Rn. 2300 (6) were taken

Sea transport GGVSEA/IMDG Code: Class 3.3 UN-No 1866 Packaging Group 111
Label 3 danger of water pollution, marine pollutant

Emergency action EmS 3-05 EmS (2) MFAg 310 MFAg (2)

Proper shipping name: Resin solution (contains Styrene & Methyl methacrylate)

Remarks:

Air transport: ICAO/IATA-DGR: Class 111, UN No 1866
Proper shipping name: Resin solution
Remarks: Drill 3L

Inland waterway transport ADNR: The transport classification for inland navigation has not yet been determined.

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 - No smoking

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S24/25. Avoid contact with skin and eyes

S29 Do not empty into drains

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.