

5: FIRE-FIGHTING MEASURES

Suitable Extinguishers: Alcohol Resistant Foam Dry Powder Carbon Dioxide

Unsuitable Extinguishers: Direct water jets

Hazardous Decomposition: Possible risk of explosion. Toxic fumes are produced in fire – CO, Co₂, oxides of nitrogen possibly evolved.

Special Procedures: Do not breathe decomposition products and fumes. Use approved self-contained breathing apparatus.
Wear fire retardant clothing. Wear eye protection. Large fires should only be dealt with by trained personnel.
Use water spray to cool containers.
Prevent runoff from fire control from entering waterways.

6: ACCIDENTAL RELEASE MEASURES

Exposure Controls: Ventilate area
Evacuate all personnel. Use barriers to prevent unauthorized entry into contaminate areas.
Do not allow spill to enter drains and watercourses.

Personal Protection: Wear suitable respiratory protection for large spillages and in confined spaces, e.g. EN405 FFA2 or EN140 A2.
Wear polythene gloves.
Wear chemically resistant overalls and boots.
Use eye protection such as goggles to BS EN 166 Chemical Grade.

Disposal Considerations: Absorb in inert material such as sand or absorbent granules
Scoop up and place in plastic container to await transfer.
Dispose in accordance with local regulations.

7: HANDLING AND STORAGE

Handling: Avoid contact with eyes, skin and clothing. Avoid breathing vapor and mist. Wash thoroughly after handling. Ensure adequate ventilation and/or use local extraction.

Storage: For safe storage, store at or below 38°C (100°F). Keep in a cool, dry well-ventilated area out of direct sunlight. Keep away from sources of ignition.
Store in tightly closed, labeled containers. Can be stored in LDPE containers.
Do not allow to contact or store in aluminum, mild steel, rusty steel, copper or (alloys of) or tin vessels.

8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limit: Not Applicable
Wear gloves-polythene, neoprene or nitrile. Do not use PVC or latex.
Wear eye goggles, such as rated to BS EN 166. Ensure eye-wash facilities/station are close to hand.
After skin contact, wash immediately with plenty of water.
If handling large quantities, wear suitable protective clothing.
Use in well ventilated areas. Use local exhaust ventilation if exposed for long periods.
If excessive inhalation in a poorly ventilated area is likely then use a respirator with filter type A.

9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Colour	Green
Odor	Slightly sweet
pH	~3-5
Boiling point	Not applicable
Melting point	Not applicable
Flash point	>100°C
Flammability	Non - flammable
Explosive properties	Not available
Oxidizing properties	None
Vapour pressure	~0.1 mmHg at 20°C
Relative density	~1.08
Solubility in water	Low solubility
Solubility in solvents	Miscible in organic solvents e.g. acetone
Vapour density	Not established
Partition coefficient, log Pow	Not established (but is likely is be <3)
Evaporation rate (Bu Ac=1)	Not established

10: STABILITY AND REACTIVITY

Stability:	Stable at normal temperatures.
Conditions to avoid:	Elevated temperatures, direct sunlight, sources of ignition, low oxygen environments. Hazardous exothermic polymerization can occur if exposed to elevated temperatures for periods of time. Air space/oxygen above the product is vital to keep formulatory inhibitors active.
Materials to avoid:	Oxidizing agents, free-radical initiators, reducing metal oxides. Do not allow to contact or store in aluminum, mild steel, rusty steel, copper or alloys of tin vessels.
Hazardous decomposition products:	Combustion/exothermic polymerization will generate oxides of carbon, acrid smoke and irritating fumes.

11: TOXICOLOGICAL INFORMATION

Acute toxicity:	Oral – Expected to be very low – LD50 (rat) is likely to be in the range 5,000-10,000mg/kg. Inhalation – Expected to be low. Skin – Expected to be low – LD50 (rabbit) estimated to be > 3,000mg/kg Respiratory Tract – Mild irritation of nose and throat.
Sensitization:	Not tested, but not anticipated
Repeated dose-toxicity:	Not tested, but not anticipated
Mutagenicity:	Not tested, but not anticipated
Carcinogenicity:	Not tested, but not anticipated
Reproductive Toxicity:	Not tested, but not anticipated

12: ECOLOGICAL INFORMATION

Not classified as Dangerous for the Environment by the Conventional Method as detailed in Schedule 3, Parts I and III of CHIP3 Regulations.

Ecotoxicity:	Considered to be low – due to probable biodegradability and Log Pow expected to be <3.
Bioaccumulative potential:	Expected to be low.
Persistence:	Considered to be biodegradable – testing of one major (non-declarable) component gave a biodegradability result of 85% after 28 days.
Mobility:	Considered to be relatively low due to low water solubility.

13: DISPOSAL CONSIDERATIONS

Do not discharge into drains or watercourses. Dispose of product through properly licensed contractors under national and local legislation. Product residues can be cleaned out of containers. Dispose of in accordance with the Special Waste Regulations 1996. Hardened product can be disposed of as chemical waste by incineration or licensed contractors. Clean containers can be disposed of by landfill or incineration or possibly recycled.

14: TRANSPORT INFORMATION

U.S. Department of Transportation Ground (49 CFR):

Proper shipping name: Unrestricted
 Hazard class or division: None
 Identification number: None
 Packing group: None

International Air Transportation (ICAO/IATA):

Proper shipping name: Unrestricted
 Hazard class or division: None
 Identification number: None
 Packing group: None

WaterTransportation (IMO/IMDG):

Proper shipping name: Unrestricted
 Hazard class or division: None
 Identification number: None
 Packing group: None
 Marine pollutant: None

UN No: None

IMDG: -

Packing Group:-

IATA/ICAO: -

Packing Group:-

ADR/RID: -

Item: -

Flash Point: -

Transport Name: None-not hazardous for transport.

15. REGULATORY INFORMATION LABELLING

Symbol(s) & Indication(s) of DANGER



Irritant

IRRITANT Label Phrases: Contains 2-hydroxypropyl methacrylate and trimethylolpropane triacrylate.

Risk & Safety Phrases

R41 Risk of serious damage to eyes
 R37/38 Irritating to respiratory system and skin
 R43 May cause sensitization by skin contact

S24/25 Avoid contact with skin and eyes

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S37/39 Wear Suitable gloves and eye/face protection.

Other Relevant Regulations and Publications

Health & Safety at Work etc. Act 1974
 Control of Substances Hazardous to Health Regulations 1994
 COSHH Essentials
 EH40/series – Occupational Exposure Limits
 Environmental Protection Act 1990
 Special Waste Regulations 1996

16: OTHER INFORMATION**Risk phrases referred to in section 2:-**

R7	May cause fire.
R10	Flammable
R20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
R23/24/25	Toxic by inhalation, in contact with skin and if swallowed.
R33	Danger of cumulative effects.
R34	Causes burns.
R35	Causes severe burns.
R36/37/38	Irritating to eyes, respiratory system and skin.
R40	Limited evidence of a carcinogenic effect.
R43	May cause sensitization by skin contact.
R48/20/22	Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
R50	Very toxic to aquatic organism.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65	Harmful: may cause lung damage if swallowed.

PRECAUTIONS: This product and the auxiliary materials normally combined with it are capable of producing adverse health effects ranging from minor skin irritation to serious systemic effects. None of these materials should be used, stored, or transported until the handling precautions and recommendations as stated in the Material Safety Data Sheets (MSDS) for this and all other products being used are understood by all persons who will work with the product.