

Safety Data Sheet

according to 19082006/EC, Article 31

STARCOAT PMMA

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: STARCOAT PMMA

1.2 Relevant identified uses of the substance or mixture and uses advised against (See Section 16)

Application of the substance / the mixture Sealing

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Axter Ltd
West Road
Ransomes Europark
Ipswich IP3 9SX

t +44 1473 724056
e info@axterltd.co.uk
www.axter.co.uk

Emergency telephone number: + 44 (0) 1473 724056 - 8.00am to 5.30pm (not 24 hours)

In the event of a medical enquiry relating to this product, please contact your doctor or local hospital accident and emergency department.

Section 2: Hazards identification

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



GHS02 flame

Flam. Liq. 3 H225 Flammable liquid and vapour.



GHS07

Skin Irrit. 2
Skin Sens. 1
STOT SE 3

H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
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 Warning

Hazard-determining components of labelling:

methyl methacrylate
2-ethylhexyl acrylate

Hazard statements

H226 Flammable liquid and vapour. H315 Causes skin irritation.
H317 May cause an allergic skin reaction. H335 May cause respiratory irritation.

Precautionary statements

P261 Avoid breathing vapours.
P210 Keep away from heat/ sparks/ open flames/ hot surfaces. - No smoking.
P280 Wear protective gloves/ eye protection.
P312 Call a POISON CENTRE/ doctor if you feel unwell.
P303+P361+P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/shower.
P403+P235 Store in a well-ventilated place. Keep cool.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Does not meet the PBT-criteria of Annex XIII of REACH (self assessment).

vPvB: Does not meet the vPvB-criteria of Annex XIII of REACH (self assessment).

*Section 3: Composition/information on ingredients

3.2 Mixtures

Description: Mixture of substances listed below with non hazardous additions.

Dangerous components:			
CAS: 80-62-6 EINECS: 201-297-1 Reg.no: 01-2119452498-28-0000 01-2119452498-28-0025 01-2119452498-28-0028	methyl methacrylate	Flam. Liq. 2, H225; Skin Irrit. 2, H315; Skin Sens. 1, H317; STOT SE 3, H335	10-<25%
CAS: 103-11-7 EINECS: 203-080-7 Reg.no: 01-2119453158-37	2-ethylhexyl acrylate	Skin Irrit. 2, H315; Skin Sens. 1, H317; STOT SE 3, H335; Aquatic Chronic 3, H412	≥10-<25%

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.

Take affected persons out of danger area and lay down.

Involve doctor immediately.

After inhalation:

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

Take affected persons into fresh air and keep them calm.

Seek medical treatment.

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. Then consult a doctor.

After swallowing: Do not induce vomiting; call for medical help immediately.

4.2 Most important symptoms and effects, both acute and delayed

Headache

Dizziness

Skin sensitization

Irritant to skin, eyes and respiratory system

4.3 Indication of any immediate medical attention and special treatment needed

After inhalation, even in the absence of any sign of illness, give corticosteroid (eg Ventolair) to be inhaled.

*Section 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents: CO₂, sand, extinguishing powder, foam.

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.

Formation of toxic gases is possible during heating or in case of fire. In case of fire, the following can be released: Carbon monoxide (CO) Nitrogen oxides (NOx). Vapours are heavier than air. Creeping vapours can spread far from the ignition.

5.3 Advice for firefighters

Protective equipment:

Wear fully protective suit.

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.

*Section 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation



Keep away from ignition sources.

Use respiratory protective device against the effects of fumes/dust/aerosol.

Wear protective equipment. Keep unprotected persons away.

6.2 Environmental precautions:

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

Inform respective authorities in case of seepage into water course or sewage system.

6.3 Methods and material for containment and cleaning up:

Do not flush with water or aqueous cleansing agents

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

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

Cool down container when heated; cool containers exposed to heat with water. Keep containers of water near heat sources. Be prepared for emergency cooling in the case of fire nearby. Keep container tightly closed to prevent heat build-up. Avoid heat.

Do not refill residue into storage receptacles.

Ensure good ventilation/exhaustion at the workplace. At least 7-fold air changes per hour; prevent formation of aerosols.

Information about fire - and explosion protection:

Highly volatile, flammable constituents are released during processing.
Fumes can combine with air to form an explosive mixture.
Use only explosion-proof equipment.
Protect against electrostatic charges. Protect from heat.

7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles:

Store only in the original receptacle.
Store in a cool location.

Information about storage in one common storage facility:

Store away from oxidising agents.
Store away from foodstuffs.

Further information about storage conditions:

Store in cool, dry conditions in well sealed containers.
Storage in a collecting room is required.
Store under lock and key and with access restricted to technical experts or their assistants only.
Max storage temperature 30°C.
Keep container tightly sealed.
Protect from heat and direct sunlight.

7.3 Specific end use(s) Building coating or sealing.

***Section 8: Exposure controls/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 (10-25%)

WEL	Short-term value: 416 mg/m ³ , 100 ppm Long-term value: 208 mg/m ³ , 50 ppm
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DNELs		
80-62-6 methyl methacrylate		
Inhalative	DNEL (population)	74.3 mg/m ³ (Long-term - systemic effects) 105 mg/m ³ (Long-term - local effects)
	DNEL (worker)	210 mg/m ³ (Long-term - local effects) 210 mg/m ³ (Long-term - systemic effects) Long-term
103-11-7 2-ethylhexyl acrylate		
Dermal	DNEL	242 µg/cm ² (Employee / Industrial / Commercial) Long-term and short-term
Inhalative	DNEL	37.5 mg/m ³ (Employee / Industrial / Commercial) (Langzeit)

PNECs	
80-62-6 methyl methacrylate	
PNEC	0.094 mg/l (seawater); 0.94 mg/l (freshwater)
PNEC sediment	1.47 mg/kg dw (ground); 5.74 mg/kg dw (freshwater)
103-11-7 2-ethylhexyl acrylate	
Ground	2.3 mg/l (Soil microorganisms) 1 mg/l (ground)
PNEC water	0.0023 mg/kg (oral intake) 0.126 mg/l (sediment) 0.002727 mg/l (freshwater)

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

8.2 Exposure controls

Personal protective equipment:

General protective and hygienic measures:

- Avoid contact with the eyes and skin.
- Immediately remove all soiled and contaminated clothing.
- Wash hands before breaks and at the end of work.
- Keep away from foodstuffs, beverages and feed.
- Do not inhale gases / fumes / aerosols.

Respiratory protection:

- Ensure good ventilation.
- In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Protection of hands:

- Preventive skin protection by use of skin-protecting agents is recommended.



Protective gloves

After use of gloves apply skin-cleaning agents and skin cosmetics.
Prior to each use check that protective gloves are in good condition.
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of penetration times, rates of diffusion and degradation. Due to missing tests no recommendation to the glove material can be given for the product/ preparation/ chemical mixture.

Material of gloves

The selection of suitable gloves does not only depend on the material, but also on quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application. Protective gloves to comply with EN 374. Suitable material: nitrile.

Penetration time of glove material

Our recommendation is mainly for a one-time use as short-term protection against liquid splashes. For other applications, you should contact a glove manufacturer.

The exact break through time must be found out from the manufacturer of the protective gloves and must be observed.

For permanent contact in work areas without heightened risk of injury (e.g. Laboratory), gloves made of the following material are suitable:

Butyl rubber, BR

For permanent contact, gloves made of the following materials are suitable: Butyl rubber, BR

Gloves made from the following material are not suitable: Leather

Eye protection:



Tightly sealed goggles

EN Standard: EN 166

Body protection



Protective work clothing

*Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Appearance:

Form:	Fluid
Colour:	According to product specification
Odour:	Ester-like
Odour threshold:	Not determined.
pH-value:	Not determined.

Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	101 °C (MMA)
Flash point:	35 °C (DIN EN ISO 3680)
Flammability (solid, gas):	Not applicable.

Ignition temperature:	252°C (2-EHA)
Auto ignition temperature:	Product is not self-igniting.
Danger of explosion:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
Explosion limits:	
Lower:	1.7 Vol % (MMA)
Upper:	12.5 Vol % (MMA)
Vapour pressure at 20 °C:	38.7 hPa (MMA)
Density at 20 °C:	1.21 g/cm ³ (EN ISO 2811-1)
Evaporation rate	Not determined.
Solubility in / Miscibility with water:	Not miscible or difficult to mix.
Partition coefficient (n-octanol/water):	log Pow: 4,29 (2-EHA); (25 °C, OECD 107); log Pow: 1,38 (MMA)
Viscosity:	
Dynamic at 20 °C:	2800 mPas (EN ISO 2555)
Solvent content:	
Organic solvents:	0.1 %
VOC (EC)	0.09 %
Solids content:	66.0 %

9.2 Other information No further relevant information available

*Section 10: Stability and reactivity

10.1 Reactivity see Section 10.2

10.2 Chemical stability

Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications

10.3 Possibility of hazardous reactions

Exothermic reaction.

Reacts with peroxides and other radical forming substances.

A hazardous polymerization may occur after the exhaustion of the inhibitor.

10.4 Conditions to avoid Avoid heat. Avoid direct sunlight.

10.5 Incompatible materials: Reactions with peroxides and other free radical generators.

10.6 Hazardous decomposition products:

No dangerous decomposition when product used according to specifications.

Additional information:

Emergency procedures will vary depending on individual circumstances. The customer should have a contingency plan available in the workplace.

***SECTION 11: Toxicological information**

11.1 Information on toxicological effects There were no toxicological findings to the mixture.
Acute toxicity Based on available data, the classification criteria are not met.

LD/LC50 values relevant for classification:		
ATE (Acute Toxicity Estimates)		
Inhalative	LC50/4h	>432 mg/l (rat)
80-62-6 methyl methacrylate		
Oral	LD50 NOAEL	> 5000 mg/kg (rat) (OECD 401) 2000 ppm (rat) n drinking water, 6-2000 ppm Findings: No toxic effects
Dermal Inhalative	LC50 LC50/4h NOAEL	> 5000 mg/kg (rabbit) 29.8 mg/l (rat) 25 ppm (rat) 25 - 400 ppm Findings: Damage to mucous membranes in the nose at 400 ppm
21645-51-2 aluminium hydroxide		
Oral	LD50 NOAEL	> 2000 mg/kg (rat) 30 mg/kg (rat) chronic
Inhalative	LC50 NOAEC	7.6 mg/l (rat) 70 mg/m ³ (rat)
103-11-7 2-ethylhexyl acrylate		
Oral Dermal	LD50 LC50	4435 mg/kg (rat) (BASF-Test) 7520 mg/kg (hare)

Primary irritant effect:

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/irritation Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation

May cause an allergic skin reaction.

Other information (about experimental toxicology):

Due to the high vapour pressure a harmful concentration in the air is quickly been reached. At high concentrations narcotic effects can occur.

Subacute to chronic toxicity: not tested

Toxicokinetics, metabolism and distribution The drug is metabolized rapidly (MMA).

Repeated dose toxicity no data available

CMR effects (carcinogenity, mutagenicity and toxicity for reproduction) not tested

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenity 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

80-62-6 methylethyl acetate	
EC3/16h	100 mg/l (Pseudomonas putida) (Cell proliferation inhibition test, Bringmann-Kühn)
Aquatic toxicity:	
80-62-6 methylethyl acetate	
EC50/48h	69 mg/l (daphnia magna) (OECD 202)
EC50/72h	> 110 mg/l (Selenastrum capricornutum) (OECD 201)
ErC50/72h	> 110 mg/l (Pseudokirchneriella subcapitata) (OECD 201)
LC50/96h	> 79 mg/l (Rainbow trout) (OECD 203)
NOEC	9.4 mg/l (Danio rerio) (OECD 210) fish early life stage test, 35 days 37 mg/l (daphnia magna) (OECD 211) 21 days
NOEC/72h	> 110 mg/l (Selenastrum capricornutum) (OECD 201)
21645-51-2 aluminium hydroxide	
EC50	> 100 mg/l (daphnia magna)
LC50	> 100 mg/l (Selenastrum capricornutum) > 100 mg/l (Salmo trutta)
103-11-7 2-ethylhexyl acrylate	
EC50/48h (static) ErC50/72h (static)	1.3 mg/l (daphnia magna) (OECD 202, Part 1) 1.71 mg/l (scenedesmus subspicatus) (OECD 201) The details of the toxic effect relate to the analytically determined concentration.
LC50/96h (static) NOEC/21d	1.81 mg/l (Rainbow trout) (OECD 203) 0.19 mg/l (daphnia magna) The details of the toxic effect relate to the analytically determined concentration. The product has not been tested. The statement has been derived from products of a similar structure or composition.
other (28d)	> 1000 mg/kg (Soil microorganisms) (OECD 217). The product has not been tested. The statement has been derived from products of a similar structure or composition.

12.2 Persistence and degradability Easily biodegradable
Other information: The product is easily biodegradable.

12.3 Bioaccumulative potential

2-EHA:

Can be accumulated in organisms.

Bioaccumulation potential:

Bioconcentration Factor: 282.4 (calculated)

Mobility in soil

12.4 MMA: A binding to the solid phase of soil, sediment and sewage sludge is not expected. From the water surface the substance is slowly evaporated into the atmosphere.

2-EHA: The product floats on water and does not dissolve. Absorption in soil is not likely.

Additional ecological information:

COD-value: 2-EHA: Theoretical oxygen demand (TOD) = 5.6 g/g

BOD5-value: 0.14 g/g (MMA)

General notes:

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

Do not allow product to reach ground water, water course or sewage system

12.5 Results of PBT and vPvB assessment

PBT: Does not meet the PBT-criteria of Annex XIII of REACH (self assessment).

vPvB: Does not meet the vPvB-criteria of Annex XIII of REACH (self assessment).

12.6 Other adverse effects No further relevant information available.

*Section 13: Disposal considerations

13.1 Waste treatment methods

Hazardous waste according to Waste Catalogue (EWC). If recycling is not possible, waste must be removed in compliance with local regulations.

Recommendation

Uncured product residues are special waste.

Cured product residues are not hazardous waste.



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

Waste disposal key:

The following Waste Codes of the European Waste Catalogue (EWC), are considered a recommendation. Disposal must be coordinated with the local waste disposal company.

Liquid product:

080111 * paint and varnish containing organic solvents or other dangerous substances

080199 waste nec

Cured product residues:

080112 paint and varnish wastes other than those mentioned in 080111

080410 adhesive waste adhesives and sealants other than those mentioned in 080409

European waste catalogue 080111 * (recommended)

Unclean packaging:

Recommendation:

This material and its container must be disposed of as hazardous waste. Disposal must be made according to official regulations.

*Section 14: Transport information

14.1 UN-Number

ADR, ADN, IMDG

Void

IATA

UN1263

14.2 UN proper shipping name

ADR, ADN, IMDG

Void

IATA

PAINT

14.3 Transport hazard class(es)**ADR, ADN, IMDG****Class** Void**IATA****Class** 3 Flammable liquids.**Label** 3**14.4 Packing group****ADR, IMDG** Void**IATA** IIII**14.5 Environmental hazards:****Marine pollutant:** No**14.6 Special precautions for user** Not applicable.**14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code** Not applicable.**Transport/Additional information:****ADR****Remarks:** >
> Classification according to viscosity clause (2.2.3.1.5)
> 450 l: 3 F1, III**IMDG****Remarks:** Classification according to viscosity clause (2.3.2.5)
>30 l: 3, III**UN "Model Regulation":** - Void***Section 15: Regulatory information****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.**Seveso category** P5c FLAMMABLE LIQUIDS**Qualifying quantity (tonnes) for the application of lower-tier requirements** 5000t**Qualifying quantity (tonnes) for the application of upper-tier requirements** 50000t

REGULATION (EC) No. 1907/2006 ANNEX XVII Conditions of restriction 3

National regulations:**Information about limitation of use:**

Employment restrictions under the Maternity Protection Directive (94/33/EC).

Employment restrictions for maternity Directive (92/85/EEC) for expectant and nursing mothers.

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.***SECTION 16: Other information**

These figures relate to the product as delivered.

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.

Sector of Use

Relevant identified uses of the mixture

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

SU19 Building and construction work

SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Uses advised against

SU21 Consumer uses: Private households / general public / consumers

Relevant phrases

H225 Highly flammable liquid and vapour.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H335 May cause respiratory irritation.

H412 Harmful to aquatic life with long lasting effects.

Training guidance

Instruction about hazards, precautions and handling must take place before the start of employment and at least annually thereafter.

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)

VOC: Volatile Organic Compounds (USA, EU)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

Flam. Liq. 2: Flammable liquids, Hazard Category 2

Flam. Liq. 3: Flammable liquids, Hazard Category 3

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3

Sources

www.gestis.de

www.echa.eu

logkow.cisti.nrc.ca

*** Data modified compared to previous version.**

The information provided in this document is accurate to the best of our knowledge. The document does not constitute a specification and Axter takes no responsibility for the suitability of the product in a particular use. It is the user's responsibility to ensure that the product is suitable for the intended application and use and to take the necessary precautions to ensure that during handling, storage and installation of the product, all regulations to guarantee safety of people and the environment are observed. For further information or technical design assistance, contact Axter Ltd.