

Safety Data Sheet

According to 1907/2006/EC Article 31

STARCOAT PMMA CLEANER (2016)

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

1.1 Product identifier

Trade name: STARCOAT PMMA CLEANER (2016)

CAS Number:

141-78-6

EC number:

205-500-4

Index number:

607-022-00-5

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

Application of the substance / the mixture Thinner, Diluent

1.3 Details of the supplier of the safety data sheet

Supplier:

Axter Ltd, Harbour Landing, Fox's Marina,
The Strand, Wherstead, Ipswich IP2 8NJ
Tel: +44 (0) 1473 724056
Email: info@axterltd.co.uk
Website: www.axter.co.uk

1.4 Emergency telephone:

Axter Ltd - +44 (0) 1473 724056
(this line is open from 8.00 am to 5.30 pm, Monday to Friday).
In the event of a medical enquiry involving this product, members of the public should contact:
NHS 111
a doctor or
a local hospital accident and emergency department.
The NPIS (National Poisons Information Service) helpline is available for enquiries from medical professionals only.
Tel: 0344 892 0111

Section 2: Hazards identification**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.
Eye Irrit. 2	H319 Causes serious eye irritation.
STOT SE 3	H336 May cause drowsiness or dizziness.

2.2 Label elements**Labelling according to Regulation (EC) No 1272/2008**

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

Hazard pictograms

GHS02



GHS07

Signal word Danger

Hazard-determining components of labelling:

Ethyl acetate

Hazard statements

H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261	Avoid breathing vapours.
P280	Wear protective gloves/ eye protection.
P303+P361+P353 IF ON SKIN (or hair):	Take off immediately all contaminated clothing. Rinse skin with water or shower.
P312	Call a POISON CENTER/ doctor if you feel unwell.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.

Additional information:

EUH066

Repeated exposure may cause skin dryness or cracking.

2.3 Other hazards**Results of PBT and vPvB assessment****PBT:**

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

vPvB:

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

Section 3: Composition/information on ingredients**3.1 Substance****CAS No. Description**

141-78-6 ethyl acetate

Identification number(s)**EC number:** 205-500-4**Index number:** 607-022-00-5**Additional information:** * See section 15.**Section 4: First aid measures****4.1 Description of first aid measures****General information:**

Immediately remove any clothing soiled by the product.

Do not leave affected persons unattended.

Take affected persons out of danger area and lay down.

Personal protection for the First Aider.

After inhalation:

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

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

After skin contact:

Immediately wash with water and soap and rinse thoroughly.

Possible after prolonged skin contact defatting. Skin cream after prolonged skin contact.

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:

Rinse mouth.

Do not induce vomiting; call for medical help immediately.

4.2 Most important symptoms and effects, both acute and delayed

Headache

Nausea

Dizziness

Unconsciousness

Nausea

Irritant to skin, eyes and respiratory system.

Gastric or intestinal disorders

Hazards

Danger of pulmonary oedema.

After swallowing and subsequent vomiting, aspiration into the lungs, which can lead to chemical Pneumonie or suffocation.

4.3 Indication of any immediate medical attention/special treatment needed:

May cause drowsiness and dizziness.

Section 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing agents:**

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant 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.

Because of the high vapor pressure, temperature increase risk of bursting of the vessels.

In case of fire, the following can be released:

Carbon monoxide (CO).

Carbon dioxide (CO₂).

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.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

If without risk, remove containers from the danger zone.

Section 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation

Keep away from ignition sources.

Avoidance of electrostatic charging.

Wear protective equipment. Keep unprotected persons away.

6.2 Environmental precautions:

Suppress gases/fumes/haze with water spray.

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

Prevent seepage into sewage system, workpits and cellars.

6.3 Methods and material for containment and cleaning up

Ensure adequate ventilation.

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

Send for recovery or disposal in suitable receptacles.

Dispose of the material collected according to regulations.

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 receptacles tightly sealed.
Prolonged or repeated contact with skin.
Providing good ventilating/suction at work.
Avoid splashes or spray in enclosed areas.
Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).
At least 7-fold air changes per hour

Information about fire - and explosion protection:

Highly volatile, flammable constituents are released during processing.
Keep ignition sources away - Do not smoke.
Fumes can combine with air to form an explosive mixture.
Only explosion-proof equipment.
Use explosion-proof apparatus / fittings and spark-proof tools.
Protect against electrostatic charges.
Do not spray onto a naked flame or any incandescent material.
Handle only outside or in explosion protected rooms.
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.
Laws and regulations for storage and handling of water hazarding.
Regulations for storage of flammable liquids.
Store in a cool location.

Information about storage in one common storage facility:

Store in cool, dry conditions in well sealed receptacles.
For gaskets and sealants could use: PTFE.
Suitable storage materials are: Stainless carbon steel, stainless steel.
Keep container tightly sealed.

7.3 Specific end use(s)

No further relevant information available.

Section 8: Exposure controls/personal protection

Additional information about design of technical facilities: Ensure adequate ventilation at the workplace.

8.1 Control parameters

Additional information about design of technical facilities:

Ensure adequate ventilation at the workplace.

Ingredients with limit values that require monitoring at the workplace:

141-78-6 ethyl acetate (50-100%)

WEL	Short-term value: 1468 mg/m ³ , 400 ppm Long-term value: 734 mg/m ³ , 200 ppm
-----	--

DNELs		
141-78-6 ethyl acetate		
Oral	DNEL (population)	4.5 mg/kg bw/day (Long-term - systemic effects)
Dermal	DNEL	63 mg/kg bw/day (Long-term - systemic effects)
Inhalative	DNEL (population)	37 mg/m ³ (Long-term - systemic effects)
	DNEL (worker)	1,468 mg/m ³ (Acute - local effects)
		1,468 mg/m ³ (Acute - systemic effects)
		734 mg/m ³ (Long-term - systemic effects)
		734 mg/m ³ (Long-term - local effects)
	DNEL (population)	734 mg/m ³ (Acute - local effects)
		734 mg/m ³ (Acute - systemic effects)
		367 mg/m ³ (Long-term - systemic effects)
		367 mg/m ³ (Long-term - local effects)
PNECs		
141-78-6 ethyl acetate		
PNEC	0.22 mg/kg (ground)	
	0.34 mg/kg (sediment)	
PNEC	0.26 mg/l (water)	

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

8.2 Exposure controls

Ensure adequate ventilation at the workplace.



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.
Use skin protection cream for skin protection.
Keep away from foodstuffs, beverages and feed.
Do not carry product impregnated cleaning cloths in trouser pockets.
Do not eat, drink, smoke or sniff while working.
Avoid contact with the eyes.

Respiratory protection

Short term filter device: Filter A/P2
In interiors and at transgression of the limiting values breath filtration device: Filter type A1 using an air recycling independent breathing apparatus at high concentrations A2 at an intensive or longer outline.

Protection of hands

Solvent resistant gloves
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
Check protective gloves prior to each use for their proper condition.
Solvent resistant gloves.
Check the permeability prior to each renewed use of the glove.

To avoid skin problems reduce the wearing of gloves to the required minimum.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

General recommendation: The usage time of the protective gloves is approx. 50% of the penetration time measured in the laboratory!

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Penetration time of glove material

Our Recommendation is mainly on a one-time use as a short-term protection Liquid splashes. For other applications, you should contact a glove manufacturer.

At the first sign of wear protective gloves should be replaced.

Permeation / Breakthrough time: ≥ 120 min (EN 374)

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

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

Gloves made of the following material are suitable for permanent contact in work areas without heightened risk of injury (e.g. Laboratory)

Butyl rubber, BR

Gloves made of the following materials are suitable for permanent contact

Butyl rubber, BR

Gloves made of the following materials are not suitable

Fluorocarbon rubber (Viton)

Natural rubber, NR

Chloroprene rubber, CR

Nitrile rubber, NBR

PVC gloves

Leather gloves

Eye protection

Tightly sealed goggles. EN standard: EN 166

Body protection

Solvent resistant protective clothing

Protective work clothing

Limitation and supervision of exposure into the environment

Not discharge into drains / surface water bodies / groundwater.

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Appearance:

Form:

Fluid

Colour:

Colourless

Odour:

Fruit-like

Odour threshold:

0.006 - 0.686 mg/l (gas in air)

pH value:	Slightly alkaline Mixture is non-polar/aprotic.
Melting point/freezing point:	-83 °C (DIN 51751)
Initial boiling point and boiling range:	77 °C (DIN 53757)
Flash point:	-4 °C (DIN 51755)
Flammability	No data available. Highly flammable.
Auto-ignition temperature:	≥425 °C (DIN 51794)
Ignition temperature:	Product is not selfigniting.
Explosive properties:	Not determined.
Lower explosion limit:	2.1 Vol %
Upper explosion limit:	11.5 Vol %
Oxidising properties:	Not classified as oxidizing
Vapour pressure at 20 °C:	96.8 hPa
Vapour pressure at 50 °C:	360 hPa
Density at 20°C:	0.9 g/cm ³ (DIN 51757)
Evaporation rate	4.5 (n-BuAc = 1)
Solubility in / Miscibility with water at 20 °C:	79 g/l Not miscible or difficult to mix.
Partition coefficient (n-octanol/water):	0.66 - 0.68 log POW
Viscosity:	
Dynamic at 20 °C:	~0.45 mPas (EN ISO 2555)
Kinematic:	No data available.
Organic solvents:	100.0%
VOC (EC):	100.00%

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:

At atmospheric pressure distilled without decomposition.

Avoid: heat, flames, sparks.

No decomposition if used according to specifications.

Avoid impact, friction, heat, sparks and electrostatic charge.

10.3 Possibility of hazardous reactions

Used empty containers may contain product gases which form explosive mixtures with air.

Develops readily flammable gases/fumes.

Danger of receptacles bursting because of high vapour pressure when heated.

10.4 Conditions to avoid No further relevant information available.**10.5 Incompatible materials:**

Highly oxidizing agents

Strong acids

Alkalis (bases, alkalis)

Metals

10.6 Hazardous decomposition products:

Carbon monoxide (CO) and carbon dioxide (CO₂).

Additional information:

Emergency procedures will vary depending on individual circumstances. The customer should have a contingency plan to the workplace may be present.

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:**141-78-6 ethyl acetate**

Oral	LD50	4,934 mg/kg (rabbit) (OECD 401)
Dermal	LD50	>18,000 mg/kg (rabbit)
	LC50	>18,000 mg/kg (rat)
Inhalative	NOAEC	1.28 mg/m ³ /90d (rat) (EPA OTS 798.2450)
	LC50/4 h	56 mg/l (rat)

Specific symptoms in biological assay:

Mice that were exposed for 7 days 6 hours per 4300 ppm developed, slight blood changes, and loss of appetite. Rabbits that were exposed for 40 days one hour per day 4400 ppm, developed secondary anemia, blood effects and minor Milzerweiterung. There was no evidence of carcinogenicity in mice were observed.

Primary irritant effect:**Skin corrosion/irritation**

Prolonged or repeated skin contact may defat the skin and result in skin irritation.

Serious eye damage/irritation

Short-term, reversible irritation.

Causes serious eye irritation.

Respiratory or skin sensitisation

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

Other information (about experimental toxicology):

Ames test: negative

Subacute to chronic toxicity:

In vitro mutagenicity:

Ames test: negative - with and without metabolic activation method: OECD 471

Cytogenicity assay in Chinese hamster cells: negative - with and without metabolic activation - Method:

OECD 473

Mouse lymphoma cell gene mutation: negative - with and without metabolic activation - Method: OECD 476
(Reference substance: Ethanol) in vivo Mutagenicity:

Mammalian Erythrocyte Micronucleus test in Chinese hamster and male mice: negative - Method: OECD 474

Carcinogenic effects: No evidence of carcinogenicity, reproductive toxicity: No effects on fertility
(Reference substance: Ethanol)

Routes of exposure oral gavage (species mouse, Method OECD 416)

NOAEL: 26400 mg / kg bw / day (for ethyl acetate on a molar basis)

Rat species, type of study Two-generation study

Development Damaging effects: No teratogenic, maternally or developmental effects (Reference substance: Ethanol)

Rat species, method OECD 414, NOAEC: 73,300 mg / Type of study Prenatal Developmental

Repeated exposure: No negative impact.

Routes of exposure oral gavage: rat species, method EPA OTS 795.2600, NOAEL: 900 mg / kg bw / day

Repeated exposure: No negative impact

Inhalation routes of exposure: rat species, method EPA OTS 798.2450, NOEC 1.28 mg / l, 90-day inhalation study subchronic toxicity study

Additional toxicological information:

Inhalation of concentrated vapors may lead to anesthesia-like conditions and headache, dizziness, etc.

Repeated dose toxicity

141-78-6 ethyl acetate

Oral	NOAEL/90d	900 mg/kg bw/day (rat) (EPA OTS 795.2600)
------	-----------	---

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Based on current information known no CMR effects.

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 drowsiness or dizziness.

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	
141-78-6 ethyl acetate	
EC50/24h	3,090 mg/l (daphnia magna) (DIN 38412, Part 11)
EC50/48h	164 mg/l (daphnia magna)
	3,300 mg/l (scenedesmus subspicatus)
LC50/96h	230 mg/l (fish)
	455 mg/l (pimephales promelas)
NOEC/72h	>100 mg/l (Alge (Desmodesmus subspicatus)) (OECD 201)
NOEC/21d	2.4 mg/l (daphnia magna)

12.2 Persistence and degradability Easily biodegradable

Other information:

DOC: > 70 %

Biodegradability 100% in 28 days (OECD 301 D)

12.3 Bioaccumulative potential

Log P (o/w): 0,66 - 0,68

Due to the distribution coefficient n-octanol/water an appreciable enrichment (bioaccumulation) in organisms is not to be expected (log P (o / w): 1-3).

12.4 Mobility in soil

No further relevant information available.

Additional ecological information:

COD-value: 1816 mg Og/g

BOD5-value: 293 mg Og/g

General notes:

Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water

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

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 UK REACH (self assessment).

vPvB:

Does not meet the vPvB-criteria of Annex XIII of UK 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 in compliance with local regulations to be removed.

Recommendation

Disposal should be in accordance with applicable regional, national and local laws and regulations.

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

Uncured product residues are special waste.

Cured product residues are not hazardous waste.

Must be specially treated adhering to official regulations.

Waste disposal key:

Please get in touch to arrange the waste code contact with the disposal of your choice.

Uncleaned packaging:**Recommendation:**

Disposal must be made according to official regulations.

Section 14: Transport information

14.1	UN-Number	
	ADR, IMDG, IATA	UN1173
14.2	UN proper shipping name	
	ADR	1173 ETHYL ACETATE
	IMDG, IATA	ETHYL ACETATE
14.3	Transport hazard class(es)	
	ADR	
		
	Class 3	3 (F1) Flammable liquids.
	Label	3
	IMDG, IATA	
		
	Class 3	3 Flammable liquids.
	Label	3
14.4	Packaging group	
	ADR, IMDG, IATA	II
14.5	Environmental hazards:	
	Marine pollutant:	No
14.6	Special precautions for user	Warning: Flammable liquids.
	Danger code (Kemler):	33
	EMS Number:	F-E,S-D
	Stowage category:	B
14.7	Transport in bulk according to Annex II of Marpol 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 30ml
		Maximum net quantity per outer packaging 500ml

Transport category	2
Tunnel restriction code	D/E
IMDG	
Limited Quantities (LQ)	1L
Excepted Quantities (EQ)	Code E2 Maximum net quantity per inner packaging 30ml Maximum net quantity per outer packaging 500ml
UN "Model Regulation":	UN 1173 ETHYL ACETATE, 3, II

Section 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Poisons Act

Regulated explosives precursors

Substance is not listed.

Regulated poisons

Substance is not listed.

Reportable explosives precursors

Substance is not listed.

Reportable precursors

Substance is not listed.

Labelling according to Regulation (EC) No 1272/2008

GHS label elements

Directive 2012/18/EU

Named dangerous substances - ANNEX I

Substance is not listed.

Seveso category P5c FLAMMABLE LIQUIDS

Qualifying quantity (tonnes) for the application of lower-tier requirements 5,000 t

Qualifying quantity (tonnes) for the application of upper-tier requirements 50,000 t

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

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.

These figures relate to the product as delivered.

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
------	--

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.

Training hints

Teaching about hazards and precautions to hand the operating instructions (Technical Rule 555).
Instruction must take place before the start of employment and at least annually thereafter.

Abbreviations and acronyms:

ICAO: International Civil Aviation Organisation

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ADR: Accord relatif au transport international 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

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

DNEL: Derived No-Effect Level (UK REACH)

PNEC: Predicted No-Effect Concentration (UK REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

vPvB: very Persistent and very Bioaccumulative

ATE: Acute toxicity estimate values

Flam. Liq. 2: Flammable liquids – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

Disclaimer:

Axter Ltd reserves the right to modify and update this data at any time without prior notice. Only the latest version of this document is valid, available for download at www.axter.co.uk/downloads. Once downloaded, documents are uncontrolled. Users should always confirm they are referring to the latest version prior to use. Further assistance is available from Axter Ltd's Technical Support Team, email: technical@axterltd.co.uk, telephone: 01473 935008.

The intended use of this product should be verified with Axter Ltd prior to adoption to ensure its suitability and compliance with specifications, project requirements, industry regulations, legislation, good practice, installation techniques and all other relevant guidance. The user should ensure all necessary precautions are taken during handling, storage, installation and disposal of the product, and all regulations to guarantee safety of people and the environment are observed. Axter Ltd accepts no liability for non-compliant use of this product.