



SAFETY DATA SHEET
ALPHA-HYDROXY-OMEGA-HYDROXPOLY(OXY-1,4-BUTANEDIYL)

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

1.1. Product identifier

Product name	ALPHA-HYDROXY-OMEGA-HYDROXPOLY(OXY-1,4-BUTANEDIYL)
Product number	57805
Synonyms; trade names	POLYTHF 650S, POLYTHF 250 TECH, POLYTETRAHYDROFURAN 250, POLYTETRAHYDROFURAN 650S, POLYTHF 650, POLYTETRAHYDROFURAN 650
CAS number	25190-06-1

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Chemical Chemicals used in the synthesis and / or formulation of industrial products
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1.3. Details of the supplier of the safety data sheet

Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com
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1.4. Emergency telephone number

Emergency telephone	SGS - +32 (0)3 575 55 55 (24h)
Sds No.	57805

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards	Not Classified
Health hazards	Not Classified
Environmental hazards	Aquatic Chronic 3 - H412

2.2. Label elements

Hazard statements	H412 Harmful to aquatic life with long lasting effects.
Precautionary statements	P273 Avoid release to the environment. P501 Dispose of contents/ container in accordance with national regulations.

2.3. Other hazards

This substance is not classified as PBT or vPvB according to current EU criteria.

SECTION 3: Composition/information on ingredients

3.1. Substances

ALPHA-HYDROXY-OMEGA-HYDROXYPOLY(OXY-1,4-BUTANEDIYL)

ALPHA-HYDROXY-OMEGA-HYDROXYPOLY(OXY-1,4-BUTANEDIYL)	<100%
CAS number: 25190-06-1	
Classification	
Aquatic Chronic 3 - H412	

The full text for all hazard statements is displayed in Section 16.

Product name ALPHA-HYDROXY-OMEGA-HYDROXYPOLY(OXY-1,4-BUTANEDIYL)

CAS number 25190-06-1

Composition comments The data shown are in accordance with the latest EC Directives.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical attention if any discomfort continues.
Ingestion	Rinse mouth thoroughly with water. Do not induce vomiting. Get medical attention if any discomfort continues.
Skin contact	Remove affected person from source of contamination. After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water. Get medical attention if any discomfort continues.
Eye contact	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

4.2. Most important symptoms and effects, both acute and delayed

Eye contact May cause temporary eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor No specific recommendations. If in doubt, get medical attention promptly.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards	When heated and in case of fire, toxic vapours/gases may be formed.
Hazardous combustion products	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Oxides of the following substances: Carbon. Nitrogen.

5.3. Advice for firefighters

Protective actions during firefighting Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Contain and collect extinguishing water. Control run-off water by containing and keeping it out of sewers and watercourses.

ALPHA-HYDROXY-OMEGA-HYDROXYPOLY(OXY-1,4-BUTANEDIYL)

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Good personal hygiene procedures should be implemented.

6.2. Environmental precautions

Environmental precautions Do not discharge into drains or watercourses or onto the ground. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Stop leak if safe to do so. Absorb in vermiculite, dry sand or earth and place into containers. Collect and place in suitable waste disposal containers and seal securely. Label the containers containing waste and contaminated materials and remove from the area as soon as possible. For waste disposal, see Section 13.

6.4. Reference to other sections

Reference to other sections Wear protective clothing as described in Section 8 of this safety data sheet. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Provide adequate general and local exhaust ventilation. Avoid contact with the following materials: Oxygen. Air Take precautionary measures against static discharges. Keep away from heat, sparks and open flame.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place. Store at temperatures between 20°C and <95°C. Keep under Nitrogen Store at temperatures not exceeding 90°C. Do not store for more than 24 months. Store away from the following materials: Strong oxidising agents.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Occupational exposure limits

2,6 DI-TERT-BUTYL-P-CRESOL (BHT)

Long-term exposure limit (8-hour TWA): WEL 10 mg/m³

WEL = Workplace Exposure Limit.

Ingredient comments No exposure limits known for ingredient(s).

ALPHA-HYDROXY-OMEGA-HYDROXYPOLY(OXY-1,4-BUTANEDIYL) (CAS: 25190-06-1)

Ingredient comments No exposure limits known for ingredient(s).

ALPHA-HYDROXY-OMEGA-HYDROXYPOLY(OXY-1,4-BUTANEDIYL)

2,6 DI-TERT-BUTYL-P-CRESOL (BHT) (CAS: 128-37-0)

Ingredient comments	WEL = Workplace Exposure Limits
DNEL	Workers - Inhalation; Long term systemic effects: 3.5 mg/m ³ Workers - Dermal; Long term systemic effects: 0.5 mg/kg/day General population - Inhalation; Long term systemic effects: 0.86 mg/m ³ General population - Dermal; Long term systemic effects: 0.25 mg/kg/day General population - Oral; Long term systemic effects: 0.25 mg/kg/day
PNEC	- Fresh water; 0.199 µg/l - marine water; 0.0199 µg/l - Sediment (Freshwater); 99.6 mg/kg - Sediment (Marinewater); 9.96 mg/kg - Soil; 47.69 µg/kg STP; 0.17 mg/l

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls as the primary means to minimise worker exposure.

Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Tight-fitting safety glasses. Personal protective equipment for eye and face protection should comply with European Standard EN166.

Hand protection

The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. The selected gloves should have a breakthrough time of at least 8 hours. Nitrile rubber. Thickness: > 0.4 mm Chloroprene rubber. Thickness: > 0.5 mm Butyl rubber. Thickness: > 0.7 mm To protect hands from chemicals, gloves should comply with European Standard EN374.

Other skin and body protection

Wear appropriate clothing to prevent any possibility of skin contact.

Hygiene measures

Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Remove contaminated clothing and wash the skin thoroughly with soap and water after work. Take off contaminated clothing and wash it before reuse.

Respiratory protection

Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. If ventilation is inadequate, suitable respiratory protection must be worn. EN 136/140/141/145/143/149

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid. Wax. Viscous
Colour	Colourless.
Odour	Odourless.

ALPHA-HYDROXY-OMEGA-HYDROXYPOLY(OXY-1,4-BUTANEDIYL)

Odour threshold	No information available.
pH	pH (diluted solution): 6.8 - 7.0 @ 01. %
Melting point	> -14°C
Initial boiling point and range	> 250°C
Flash point	> 180°C
Evaporation rate	No information available.
Evaporation factor	No information available.
Flammability (solid, gas)	No information available.
Upper/lower flammability or explosive limits	No information available.
Other flammability	No information available.
Vapour pressure	< 0.1 mbar @ 20°C < 1 mm Hg @ 20°C
Vapour density	No information available.
Relative density	0.987 - 1.00 @ 20°C
Bulk density	No information available.
Solubility(ies)	Slightly soluble in water. Soluble in the following materials: Organic solvents.
Partition coefficient	log Kow: 18.9
Auto-ignition temperature	No information available.
Decomposition Temperature	> 240°C
Viscosity	158 mPa s @ 20°C
Explosive properties	Not considered to be explosive.
Explosive under the influence of a flame	No information available.
Oxidising properties	Does not meet the criteria for classification as oxidising.

9.2. Other information

Other information	Not determined.
Refractive index	No information available.
Particle size	No information available.
Molecular weight	No information available.
Volatility	No information available.
Saturation concentration	No information available.
Critical temperature	No information available.
Volatile organic compound	No information available.

SECTION 10: Stability and reactivity**10.1. Reactivity**

Reactivity	There are no known reactivity hazards associated with this product.
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ALPHA-HYDROXY-OMEGA-HYDROXYPOLY(OXY-1,4-BUTANEDIYL)

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Contact with air and light may form explosive peroxides.

10.4. Conditions to avoid

Conditions to avoid Avoid excessive heat for prolonged periods of time. Eliminate all sources of ignition.

10.5. Incompatible materials

Materials to avoid Strong oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition products Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Oxides of the following substances: Carbon. Nitrogen.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD₅₀) LD₅₀ > 5000 mg/kg, Oral, Rat

Acute toxicity - dermal

Notes (dermal LD₅₀) No information available.

Acute toxicity - inhalation

Notes (inhalation LC₅₀) No information available.

Skin corrosion/irritation

Animal data Slightly irritating. Rabbit

Serious eye damage/irritation

Serious eye damage/irritation Not irritating. Rabbit

Respiratory sensitisation

Respiratory sensitisation Not sensitising.

Skin sensitisation

Skin sensitisation Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro This substance has no evidence of mutagenic properties.

Carcinogenicity

Carcinogenicity No information available.

Reproductive toxicity

Reproductive toxicity - fertility No information available.

Specific target organ toxicity - single exposure

STOT - single exposure No information available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure No information available.

Aspiration hazard

ALPHA-HYDROXY-OMEGA-HYDROXYPOLY(OXY-1,4-BUTANEDIYL)

Aspiration hazard	No information available.
Inhalation	Gas or vapour in high concentrations may irritate the respiratory system.
Ingestion	May cause discomfort if swallowed.
Skin contact	Liquid may irritate skin.
Eye contact	May cause temporary eye irritation.

Toxicological information on ingredients.

ALPHA-HYDROXY-OMEGA-HYDROXYPOLY(OXY-1,4-BUTANEDIYL)

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 5,000.0

Species Rat

Notes (oral LD₅₀) LD₅₀ > 5000 mg/kg, Oral, Rat

Acute toxicity - dermal

Notes (dermal LD₅₀) No information available.

Acute toxicity - inhalation

Notes (inhalation LC₅₀) No information available.

Skin corrosion/irritation

Animal data Slightly irritating. Rabbit

Serious eye damage/irritation

Serious eye damage/irritation Not irritating. Rabbit

Respiratory sensitisation

Respiratory sensitisation Not sensitising.

Skin sensitisation

Skin sensitisation Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro This substance has no evidence of mutagenic properties.

Carcinogenicity

Carcinogenicity No information available.

Reproductive toxicity

Reproductive toxicity - fertility No information available.

Specific target organ toxicity - single exposure

STOT - single exposure No information available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure No information available.

Aspiration hazard

ALPHA-HYDROXY-OMEGA-HYDROXYPOLY(OXY-1,4-BUTANEDIYL)

Aspiration hazard	No information available.
Inhalation	Gas or vapour in high concentrations may irritate the respiratory system.
Ingestion	May cause discomfort if swallowed.
Skin contact	Liquid may irritate skin.
Eye contact	May cause temporary eye irritation.

SECTION 12: Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Ecological information on ingredients.

ALPHA-HYDROXY-OMEGA-HYDROXYPOLY(OXY-1,4-BUTANEDIYL)

Ecotoxicity Harmful to aquatic life with long lasting effects.

12.1. Toxicity

Toxicity Harmful to aquatic life with long lasting effects.

Acute aquatic toxicity

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: > 10 - <100 mg/l, Daphnia magna
OECD 202

Acute toxicity - aquatic plants EC₅₀, 72 hours: 104.3 mg/l, Scenedesmus subspicatus

Acute toxicity - microorganisms EC₂₀, 30 minutes: ~ 450 mg/l, Activated sludge

Ecological information on ingredients.

ALPHA-HYDROXY-OMEGA-HYDROXYPOLY(OXY-1,4-BUTANEDIYL)

Toxicity Harmful to aquatic life with long lasting effects.

Acute aquatic toxicity

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: > 10 - <100 mg/l, Daphnia magna
OECD 202

Acute toxicity - aquatic plants EC₅₀, 72 hours: 104.3 mg/l, Scenedesmus subspicatus

Acute toxicity - microorganisms EC₂₀, 30 minutes: ~ 450 mg/l, Activated sludge

12.2. Persistence and degradability

Persistence and degradability The product is not readily biodegradable.

Ecological information on ingredients.

ALPHA-HYDROXY-OMEGA-HYDROXYPOLY(OXY-1,4-BUTANEDIYL)

Persistence and degradability The product is not readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

ALPHA-HYDROXY-OMEGA-HYDROXYPOLY(OXY-1,4-BUTANEDIYL)

Partition coefficient log Kow: 18.9

Ecological information on ingredients.

ALPHA-HYDROXY-OMEGA-HYDROXYPOLY(OXY-1,4-BUTANEDIYL)

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient log Kow: 18.9

12.4. Mobility in soil

Mobility Miscible with water.

Ecological information on ingredients.

ALPHA-HYDROXY-OMEGA-HYDROXYPOLY(OXY-1,4-BUTANEDIYL)

Mobility Miscible with water.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

Ecological information on ingredients.

ALPHA-HYDROXY-OMEGA-HYDROXYPOLY(OXY-1,4-BUTANEDIYL)

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects Not determined.

Ecological information on ingredients.

ALPHA-HYDROXY-OMEGA-HYDROXYPOLY(OXY-1,4-BUTANEDIYL)

Other adverse effects Not determined.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Do not puncture or incinerate, even when empty. Waste is classified as hazardous waste. Waste is suitable for incineration.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1. UN number

No information required.

14.2. UN proper shipping name

No information required.

14.3. Transport hazard class(es)

ALPHA-HYDROXY-OMEGA-HYDROXYPOLY(OXY-1,4-BUTANEDIYL)

No information required.

14.4. Packing group

No information required.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

No information required.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to No information required.

Annex II of MARPOL 73/78
and the IBC Code

SECTION 15: Regulatory information

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

EU legislation

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

Commission Regulation (EU) No 2015/830 of 28 May 2015.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

ALPHA-HYDROXY-OMEGA-HYDROXYPOLY(OXY-1,4-BUTANEDIYL)

Abbreviations and acronyms used in the safety data sheet	ATE: Acute Toxicity Estimate.
	ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
	ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
	CAS: Chemical Abstracts Service.
	DNEL: Derived No Effect Level.
	IATA: International Air Transport Association.
	IMDG: International Maritime Dangerous Goods.
	Kow: Octanol-water partition coefficient.
	LC ₅₀ : Lethal Concentration to 50 % of a test population.
	LD ₅₀ : Lethal Dose to 50% of a test population (Median Lethal Dose).
	PBT: Persistent, Bioaccumulative and Toxic substance.
	PNEC: Predicted No Effect Concentration.
	REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006.
	RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
	vPvB: Very Persistent and Very Bioaccumulative.
	IARC: International Agency for Research on Cancer.
	MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978.
	cATpE: Converted Acute Toxicity Point Estimate.
	BCF: Bioconcentration Factor.
	BOD: Biochemical Oxygen Demand.
	EC ₅₀ : 50% of maximal Effective Concentration.
	LOAEC: Lowest Observed Adverse Effect Concentration.
	LOAEL: Lowest Observed Adverse Effect Level.
	NOAEC: No Observed Adverse Effect Concentration.
	NOAEL: No Observed Adverse Effect Level.
	NOEC: No Observed Effect Concentration.
	LOEC: Lowest Observed Effect Concentration.
	DMEL: Derived Minimal Effect Level.
	EL50: Exposure Limit 50
	hPa: Hectopascal
	LL50: Lethal Loading fifty
	OECD: Organisation for Economic Co-operation and Development
	POW: Octanol-water partition coefficient
	SCBA: self-contained breathing apparatus
	STP: Sewage Treatment Plant
	VOC: Volatile Organic Compounds
Classification abbreviations and acronyms	Acute Tox. = Acute toxicity
	Aquatic Acute = Hazardous to the aquatic environment (acute)
	Aquatic Chronic = Hazardous to the aquatic environment (chronic)
Key literature references and sources for data	Supplier's information.
Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.
Revision date	13/08/2020
Version number	1.001
Supersedes date	12/05/2019
SDS number	57805

ALPHA-HYDROXY-OMEGA-HYDROXYPOLY(OXY-1,4-BUTANEDIYL)

SDS status	Approved.
Hazard statements in full	H412 Harmful to aquatic life with long lasting effects.
Signature	Jitendra Panchal