SAFETY DATA SHEET

2-[2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy]-1-(p-toluenesulfonyl)-ethanol


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

1.1. Product identifier

Product name: 2-[2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy]-1-(p-toluenesulfonyl)-ethanol

Product number: FH07578

Synonyms; trade names: HO-PEG3-OTs

CAS number: 77544-60-6

EC number: 804-383-2

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

Identified uses: Laboratory reagent. Manufacture of substances. Research and development.

1.3. Details of the supplier of the safety data sheet

Supplier: Carbosynth Ltd
8&9 Old Station Business Park
Compton
Berkshire
RG20 6NE
UK
+44 1635 578444
+44 1635 579444
info@carbosynth.com

1.4. Emergency telephone number

Emergency telephone: +44 7887 998634

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards: Not Classified

Health hazards: Acute Tox. 3 - H301 Skin Corr. 1B - H314 Eye Dam. 1 - H318

Environmental hazards: Not Classified

2.2. Label elements

EC number: 804-383-2

Pictogram

Signal word: Danger

Hazard statements: H301 Toxic if swallowed.
H314 Causes severe skin burns and eye damage.
2-[2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy]-1-(p-toluenesulfonyl)-ethanol

Precautionary statements
P264 Wash contaminated skin thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing.
Rinse skin with water or shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3. Other hazards
No data available.

SECTION 3: Composition/information on ingredients

3.1. Substances
Product name 2-[2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy]-1-(p-toluenesulfonyl)-ethanol
CAS number 77544-60-6
EC number 804-383-2
Chemical formula C₁₃H₂₀O₆S

SECTION 4: First aid measures

4.1. Description of first aid measures
General information Get medical advice/attention if you feel unwell.
Inhalation Remove person to fresh air and keep comfortable for breathing. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. If breathing stops, provide artificial respiration. Get medical attention if symptoms are severe or persist.
Ingestion Do not induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth thoroughly with water. Give a few small glasses of water or milk to drink. Get medical attention if symptoms are severe or persist.
Skin contact Remove contaminated clothing. Rinse with water. Continue to rinse for at least 15 minutes. Wash contaminated clothing before reuse. Get medical attention if symptoms are severe or persist.
Eye contact Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes. Get medical attention if symptoms are severe or persist.

4.2. Most important symptoms and effects, both acute and delayed
General information See Section 11 for additional information on health hazards.

4.3. Indication of any immediate medical attention and special treatment needed
Notes for the doctor Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture
Specific hazards None known.
**2-[2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy]-1-(p-toluenesulfonyl)-ethanol**

**Hazardous combustion products**
Thermal decomposition or combustion products may include the following substances: Oxides of carbon. Oxides of sulphur.

**5.3. Advice for firefighters**
Special protective equipment for firefighters
Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents. Use protective equipment appropriate for surrounding materials.

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**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. No action shall be taken without appropriate training or involving any personal risk. Do not touch or walk into spilled material. Avoid inhalation of vapours. Provide adequate ventilation. Keep unnecessary and unprotected personnel away from the spillage.

**6.2. Environmental precautions**
Environmental precautions
Avoid discharge into drains or watercourses or onto the ground.

**6.3. Methods and material for containment and cleaning up**
Methods for cleaning up
Wear protective clothing as described in Section 8 of this safety data sheet. Absorb spillage with sand or other inert absorbent. Clear up spills immediately and dispose of waste safely. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Provide adequate ventilation. For waste disposal, see Section 13.

**6.4. Reference to other sections**
Reference to other sections
For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

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**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**
Usage precautions
Wear protective clothing as described in Section 8 of this safety data sheet. Wash hands thoroughly after handling. Provide adequate ventilation. Avoid contact with skin and eyes. Avoid inhalation of vapours and spray/mists.

**7.2. Conditions for safe storage, including any incompatibilities**
Storage precautions
Keep container tightly closed. Store in a cool and well-ventilated place. Keep containers upright. Store contents under inert gas. Handle under inert gas. Store at temperatures between 2°C and 8°C.

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

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**SECTION 8: Exposure Controls/personal protection**

**8.1. Control parameters**
Occupational exposure limits
No exposure limits known for ingredient(s).

**8.2. Exposure controls**
Appropriate engineering controls
Provide adequate ventilation.
2-[2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy]-1-(p-toluenesulfonyl)-ethanol

Eye/face protection
Unless the assessment indicates a higher degree of protection is required, 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
Wear protective gloves. To protect hands from chemicals, gloves should comply with European Standard EN374.

Other skin and body protection
Wear appropriate clothing to prevent repeated or prolonged skin contact.

Respiratory protection
Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is ‘CE’-marked. Gas and combination filter cartridges should comply with European Standard EN14387. Full face mask respirators with replaceable filter cartridges should comply with European Standard EN136. Half mask and quarter mask respirators with replaceable filter cartridges should comply with European Standard EN140.

Environmental exposure controls
Keep container tightly sealed when not in use.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

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9.2. Other information

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# 2-[2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy]-1-(p-toluenesulfonyl)-ethanol

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

**Reactivity**

No data available.

### 10.2. Chemical stability

**Stability**

Stable under the prescribed storage conditions.

### 10.3. Possibility of hazardous reactions

**Possibility of hazardous reactions**

No data available.

### 10.4. Conditions to avoid

**Conditions to avoid**

No data available.

### 10.5. Incompatible materials

**Materials to avoid**

Strong oxidising agents.

### 10.6. Hazardous decomposition products

**Hazardous decomposition products**

Oxides of carbon. Oxides of sulphur.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Acute toxicity - oral

**Notes (oral LD₅₀)**

Acute Tox. 3 - H301 Toxic if swallowed.

**ATE oral (mg/kg)**

100.0

#### Acute toxicity - dermal

**Notes (dermal LD₅₀)**

Based on available data the classification criteria are not met.

#### Acute toxicity - inhalation

**Notes (inhalation LC₅₀)**

Based on available data the classification criteria are not met.

#### Skin corrosion/irritation

**Animal data**

Skin Corr. 1B - H314 Causes severe burns.

#### Serious eye damage/irritation

**Eye Dam. 1 - H318**

Corrosive to skin. Corrosivity to eyes is assumed.

#### Respiratory sensitisation

Based on available data the classification criteria are not met.

### Skin sensitisation

Based on available data the classification criteria are not met.

### Germ cell mutagenicity

Based on available data the classification criteria are not met.

### Carcinogenicity

Based on available data the classification criteria are not met.

### IARC carcinogenicity

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

### Reproductive toxicity
2-[2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy]-1-(p-toluenesulfonyl)-ethanol

Reproductive toxicity - fertility
Based on available data the classification criteria are not met.

Reproductive toxicity - development
Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure
STOT - single exposure
Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure
STOT - repeated exposure
Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard
Based on available data the classification criteria are not met.

General information
The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation
Corrosive to the respiratory tract. Symptoms following overexposure may include the following: Severe irritation of nose and throat.

Ingestion
May cause chemical burns in mouth, oesophagus and stomach. Symptoms following overexposure may include the following: Severe stomach pain. Nausea, vomiting.

Skin contact
Causes severe burns. Symptoms following overexposure may include the following: Pain or irritation. Redness. Blistering may occur.

Eye contact
Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness.

Route of exposure
Ingestion Inhalation Skin and/or eye contact

Target organs
No specific target organs known.

SECTION 12: Ecological Information

Ecotoxicity
Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.

12.1. Toxicity
Toxicity
Based on available data the classification criteria are not met.

12.2. Persistence and degradability
Persistence and degradability
The degradability of the product is not known.

12.3. Bioaccumulative potential
Bioaccumulative potential
No data available on bioaccumulation.

Partition coefficient
log Pow: 0.801

12.4. Mobility in soil
Mobility
No data available.

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.

12.6. Other adverse effects
Other adverse effects
None known.
2-[2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy]-1-(p-toluenesulfonyl)-ethanol

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information
Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. This material and its container must be disposed of in a safe way. When handling waste, the safety precautions applying to handling of the product should be considered.

SECTION 14: Transport information

14.1. UN number
UN No. (ADR/RID) 2927
UN No. (IMDG) 2927
UN No. (ICAO) 2927
UN No. (ADN) 2927

14.2. UN proper shipping name

Proper shipping name (ADR/RID) TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S. (2-[2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy]-1-(p-toluenesulfonyl)-ethanol)
Proper shipping name (IMDG) TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S. (2-[2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy]-1-(p-toluenesulfonyl)-ethanol)
Proper shipping name (ICAO) TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S. (2-[2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy]-1-(p-toluenesulfonyl)-ethanol)
Proper shipping name (ADN) TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S. (2-[2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy]-1-(p-toluenesulfonyl)-ethanol)

14.3. Transport hazard class(es)
ADR/RID class 6.1
ADR/RID subsidiary risk 8
ADR/RID classification code TC1
ADR/RID label 6.1
IMDG class 6.1
IMDG subsidiary risk 8
ICAO class/division 6.1
ICAO subsidiary risk 8
ADN class 6.1
ADN subsidiary risk 8

Transport labels

14.4. Packing group
ADR/RID packing group II
IMDG packing group II

7/9
2-[2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy]-1-(p-toluenesulfonyl)-ethanol

ADN packing group  II
ICAO packing group  II

14.5. Environmental hazards
Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user
EmS  F-A, S-B
ADR transport category  2
Emergency Action Code  2X
Hazard Identification Number  68
(ADR/RID)
Tunnel restriction code  (D/E)

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

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
National regulations  Health and Safety at Work etc. Act 1974 (as amended).
The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment
Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"].
EH40/2005 Workplace exposure limits.

December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of
Chemicals (REACH) (as amended).
December 2008 on classification, labelling and packaging of substances and mixtures (as
amended).

15.2. Chemical safety assessment
No chemical safety assessment has been carried out.

SECTION 16: Other information

Abbreviations and acronyms
used in the safety data sheet
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.
RID:  European Agreement concerning the International Carriage of Dangerous Goods by
Rail.
IATA:  International Air Transport Association.
IMDG:  International Maritime Dangerous Goods.
CAS:  Chemical Abstracts Service.
ATE:  Acute Toxicity Estimate.
LC₅₀:  Lethal Concentration to 50 % of a test population.
LD₅₀:  Lethal Dose to 50% of a test population (Median Lethal Dose).
EC₅₀:  50% of maximal Effective Concentration.
PBT:  Persistent, Bioaccumulative and Toxic substance.
vPvB:  Very Persistent and Very Bioaccumulative.
**2-[2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy]-1-(p-toluenesulfonyl)-ethanol**

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| Hazard statements in full | H301 Toxic if swallowed.  
H314 Causes severe skin burns and eye damage.  
H318 Causes serious eye damage. |