SAFETY DATA SHEET

According to (EC) 1907/2006

1. IDENTIFICATION OF THE SUBSTANCE/ PREPARATION AND OF THE COMPANY UNDERTAKING

1.1 Product identifier

Trade name	**Propylene Carbonate**
CAS number	**108-32-7**
EC number	**203-572-1**
Index number	**607-194-00-1**
Registration number	**01-2119537232-48-xxxx**

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

Uses advised against	
Applications of the substance	**Intermediate, Raw material for industrial application, Polar solvent, Lubricants, Adhesives, Plasticiser**

1.3 Details of the supplier of the safety data sheet

Supplier/ Manufacturer:
Alliance Chemicals Limited
Old Walls, Chapel Lane, Penselwood, BA9 8LY
United Kingdom
Telephone: +44 (0) 1747841222
Fax: +44 (0) 1747841333
Email: sj@alliancechemicals.com

1.4 Emergency telephone number

+44 (0) 1747841222

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008	 GHS07 Eye irritant: Category 2 H319 Causes serious eye irritation
Classification according to Directive 67/548/EEC or Directive 1999/45/EC	 Xi; irritant R36: irritating to the eyes
Information concerning particular hazards for human and environment	Mainly resorbed via respiratory tract and skin

Classification system: The classification is based on company information and on Regulation (EC) 1272/2008 including its amendments.

2.2 Label elements

Label Elements	
Labelling (Regulation (EC) No 1272/2008;	
Symbol(s)	 GHS07
Signal word	Warning
Hazard statements	H319 Causes serious eye irritation
Precautionary statements	Prevention: P264 Wash with plenty of water and soap thoroughly after handling P280 Wear eye protection/ face protection Response: P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing P337 + P313 If eye irritation persists: Get medical advice/ attention

Hazardous components which must be listed on the label: Propylene Carbonate

2.3 Other hazards

Results of PBT and vPvB assessment	
PBT:	Not applicable due to data
vPvB:	Not applicable due to data

3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Chemical characterisation: Substances

Substances	
Description	Propylene Carbonate
CAS number:	108-32-7
EC number:	203-572-1
Index number:	607-194-00-1

4. FIRST AID MEASURES

4.1 Description of first aid measures

General Advice:	In case of accident or if you feel unwell seek medical advice immediately Show this safety date sheet to the doctor in attendance
If inhaled:	Remove to fresh air immediately. Seek medical attention
In case of skin contact:	Remove contaminated clothes and shoes. Remove person from source of contamination Immediately flush with water for at least 15 minutes If skin irritation persists call a doctor
In case of eye contact:	Immediately rinse with water for at least 15 minutes holding the eyelids apart. Get medical attention immediately
If swallowed:	Wash mouth out with water and then drink plenty of water Never give anything by mouth to an unconscious person Get medical attention immediately DO NOT induce vomiting!

4.2 Most important symptoms an effects, both acute and delayed

Irritation of eyes and mucous membrane	
After inhalation:	Oedema of the lungs
Information for doctor:	After inhalation oedema of the lungs may occur. Symptoms can also occur several hours after over exposure.

4.3 Indication of any immediate medical and special treatment needed

Symptomatic treatment. If in doubt get medical attention immediately

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing agents:	Water spray, dry powder, carbon dioxide. Fight larger fires with water spray or alcohol resistant foam
For safety reasons unsuitable extinguishing agents:	High volume water jet

5.2 Special hazards arising from the substance or mixture

In case of fire the following can be released:	Carbon monoxide (CO) Carbon dioxide (CO2)

5.3 Advice for fire fighters

Protective equipment:	Wear self-contained breathing apparatus and protective suit
Additional information:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and fire extinguishing water must be disposed of in accordance with local regulations. Heat leads to a pressure increase and risk of the packaging rupturing.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation Wear protective clothing Use respiratory protective device against the effects of fumes/dust/aerosol

6.2 Environmental precautions

Do not allow the product to penetrate the ground/soil Do not allow the product to reach any water course/ sewage systems

6.3 Methods for cleaning up/ Methods for containment

Soak up with inert absorbent material (e.g. silica gel, universal binder, sawdust) Keep in suitable closed and labelled containers for disposal

6.4 Reference to other sections

Additional Advice:	**For personal protection see Section 8** **For additional information on health hazards see Section 11** **For additional information on safe handling see Section 7** **For information on collection and disposal of spillages see Section 13**

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with skin and eyes **Avoid inhalation of vapours** **Wear full protective clothing for prolonged exposure** **Ensure good ventilation at the workplace** **Dispose of rinse water in accordance with local and national regulations**

Information about protection against explosions and fires:

Keep ignition sources away – No smoking

7.2 Conditions for safe storage including any incompatibilities

Requirements for storage areas and containers:	**No smoking** **Do not store near heat sources or expose to high temperatures** **Keep container tightly closed in a dry and well ventilated place**
Information about storage in one common storage facility:	**Store away from feedstuffs or foodstuffs** **Store away from aluminium**
Storage class:	**10 Combustible liquids**

7.3 Specific end uses

No information is available

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters:	**Not required**
propylene carbonate 108-32-7 DNEL:	**Oral DNEL/Cons/LSE 25 mg/kg bw/day (human)** **Dermal DNEL/Cons/LSE 25 mg/kg bw/day (human)** **DNEL/In/LSE 50 mg/kg bw/day (human)** **Inhalative DNEL/Cons/LLE 10/mg/m³ (human)** **DNEL/Cons/LSE 43.5 mg/m³ (human)** **DNEL/In/LSE 176mg/m³ (human)**
propylene carbonate 108-32-7 PNEC:	**PNEC 7400 mg/l (sewage treatment plant)** **PNEC/aq 0.9 mg/l (fresh water)** **0.9 mg/l (intermittent release)** **0.09 mg/l (marine water)** **PNEC/soil 0.81 mg/kg (-)** **Since the substance has no potential for bioaccumulation no PNEC oral was derived**
Abbreviations **In = Industrial** **LLE = Long term, local effects** **aq = aqua** **Prof = Professional** **LSE = Long term, systemic effects** **sed = sediment** **Cons = Consumer** **SLE = Short term, local effects** **SSE = Short term, systemic effects**	

8.2 Exposure controls

Personal protective equipment	
General protective and hygienic measures:	**Handle in accordance with good industrial hygiene and safety practice** **Avoid contact with eyes** **When using do not eat, drink or smoke** **Wash hands before breaks and at the end of the working day**
Respiratory protection:	**In the case of vapour formation use a respirator with an approved filter. Gas filter for gases/vapours of organic compounds (65ºC, e.g. EN 14387 Type A)**
Hand protection:	**Suitable chemical resistant safety gloves (E 347). E.g. nitrile rubber (0.4mm), chloroprene rubber (0.5mm), butyl rubber (0.7mm)**
Penetration time of glove material:	**Protective index 6, corresponding > 480 minutes of permeation time according to EN 374. Under practical conditions (33ºC – taking into account the body temperature), the maximum wearing time is to be limited to one-third)**
Not suitable are gloves made of the following material:	**Natural rubber. Fluorocarbon rubber**
Eye protection:	**Tight fitting safety glasses with side shields (frame goggles). E.g. EN166**
Skin and body protection:	**Appropriate clothing to prevent skin contact**

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance:	**Form:**	**Liquid**
	Colour:	**Colourless to slight yellow**
	Odour:	**Fruity**
	Odour threshold:	**Not determined**
Safety data:	**pH:**	**7 @ 200 g/l (20°C)**
	Melting point:	**-48.8°C (1,013 hPa) literature**
	Boiling point:	**240°C - 243°C**
	Flash point:	**116° C**
	Ignition temperature:	**430°C**
	Evaporation rate:	**Not determined**
	Flammability:	**does not ignite**
	Lower explosion limit:	**1.8 vol.%**
	Upper explosion limit:	**14.3 vol. %**
	Vapour pressure:	**0.06 hPa @ 25°C literature**
	Density:	**1.2047 g/ cm3 (20°C) literature**
	Relative density:	**1.2024 @ 20°C, 1013 hPa**
	Water solubility:	**175 g/l (25°C, 1013 hPa)**
	Solubility in other solvents:	**soluble in organic solvents**
	Partition coefficient:	**-0.41 n-octanol/ water (log Kow)**
	Self ignition:	**Not self igniting at room temperature**
	Thermal decomposition:	**350°C, 240 kJ/ kg Exothermic reaction above the Indicated temperature**
	Viscosity:	**2.417 – 2.54 mPa.s @ 25°C literature**
	Explosive properties:	**Based on chemical structure has no explosive properties**
	Oxidizing properties:	**Not classified as oxidizing**
This safety data sheet only contains information relating to safety and does not replace any product information or product specification		

9.2 Other information

No further relevant information is available

10. STABILITY AND REACTIVITY

10.1 Reactivity

Forms no flammable gases in the presence of water

10.2 Chemical stability

Stable under recommended storage conditions (see Section 7). Stable under normal temperatures and pressures

10.3 Possibility of hazardous reactions

Violent reactions are possible with the below mentioned substances

10.4 Conditions to avoid

Heat, flames and sparks. Avoid contact with strong oxidizers

10.5 Incompatible materials

Materials to avoid:	**Acids, alkaline, reducing agents** **Reacts strongly with oxidizers**

10.6 Hazardous decomposition products

Thermal decomposition will produce carbon monoxide and/or carbon dioxide and/ or nitrous oxides

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

108-32-7 propylene carbonate	
Acute toxicity:	Assessment of acute toxicity; Virtually nontoxic after single ingestion. Virtually nontoxic after single skin contact. Virtually nontoxic by inhalation Literature data; LD50 rat (oral): 5000 mg/ kg LD50 rabbit (dermal): 2000 mg/ kg Inhalation risk test: No mortality within 8 hours as shown in animal studies. The inhalation of a highly saturated vapour-air mixture represents no acute hazard
Irritation:	Assessment of irritating effects; Not irritating to the skin. Eye contact causes irritation Experimental/ calculated data; Skin corrosion/irritation (rabbit): Non irritant Serious eye damage/ irritation (rabbit): Irritant (OECD 405)
Respiratory/ skin sensitization:	Assessment of sensitization; The substance did not cause skin sensitization in humans Experimental/ calculated data; Patch-Test human: Non-sensitizing
Germ cell mutagenicity:	Assessment of mutagenicity; No mutagenic effect was found in various tests with microorganisms and mammalian cell structure. The substance was not mutagenic in a test with mammals
Carcinogenicity:	Assessment of carcinogenicity; Dermal exposure is not expected to be carcinogenic
Reproductive toxicity:	Assessment of reproductive toxicity; Results of animal studies gave no indication of a fertility impairing effect
Developmental toxicity:	Assessment of teratogenicity; No indications of a developmental toxic/ teratogenic effect were seen in animal studies
Specific target organ toxicity (single exposure):	Assessment of STOT single dose; Based on available information there is no specific target organ toxicity to be expected after a single exposure
Repeated dose toxicity & specific target organ toxicity (repeated exposure):	Assessment of repeated dose toxicity; Repeated oral uptake of the substance did not cause substance-related effects. Repeated inhalative uptake of the substance did not cause substance related effects
Aspiration hazard:	No aspiration hazard expected

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Aquatic toxicity:	LC50: 96 Hrs, fish mg/l ; 5300 EC50: 48 Hrs, daphnia, mg/l; >500 IC50: 72 Hrs, algae, mg/l >500

12.2 Persistence and biodegradability

Readily biodegradable (according to OECD criteria)
Biological degradation 94% after 29 days (OECD301E)

12.3 Bioaccumulation potential

This product does not contain any substances expected to be bioaccumulating because of the partition co-efficient (n-octanol/water) of -0.48

12.4 Mobility in soil

Assessment transport between environmental compartments;
The substance will slowly evaporate into the atmosphere from the water surface.
Adsorption to solid phase is not expected

12.5 Results of PBT and vPvB assessment

According to Annex X111 of Regulation (EC) No. 1907/2006 concerning REACH;
Not fulfilling PBT criteria…Self classification
According to Annex 111 of Regulation (EC) No. 1907/2006 concerning REACH:
Not fulfilling vPvB criteria…Self classification

12.6 Other adverse effects

No further relevant information is available

Additional Information: Do not release untreated into natural waterways. This product contains no organically bound halogen

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

General recommendation:	**Incinerate with provision for removal of effluent gases by scrubber. Dispose of waste and residues in accordance with local authority**
Contaminated packaging:	**Empty remaining contents Dispose of unused product Do not reuse empty containers Dispose of contaminated packaging in accordance with local and national authority**

14. TRANSPORT INFORMATION

14.1 UN number: Not applicable

14.2 UN proper shipping name: Not applicable

14.3 Transport hazard class(es): Not applicable

14.4 Packing group: Not applicable

14.5 Environmental hazards: Not applicable

14.6 Special precautions for user: Not applicable

14.7 Transport in bulk according to Annex 11 of MARPOL73/78 and the IBC Code: Not applicable

15. REGULATORY INFORMATION

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

UK regulatory references:	**Heath and Safety at work Act 1974. The Control of Substances Hazardous to Health Regulations 2002 (S.I. 2002 No 2677) with amendments. Chemicals (Hazard Information and Packaging) Regulations**
Environmental listing:	**Control of Pollution Act 1974. Control of Pollution (Special Waste Regulation) Act 1980. rivers (Prevention of Pollution) Act 1961**
Statutory instruments:	**The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (S.I. 2009 No 716). Control of Substances Hazardous to Health**
Approved code of practice:	**Safety Data Sheets for Substances and Preparations. Classification and Labelling of Substances and Preparations Dangerous for Supply**
Guidance notes:	**CHIP for everyone HSG (108). Workplace Exposure Limits EH40**
EU Legislation:	**Dangerous Substances Directive 67/548/EEC. Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning REACH, establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2002/21/EC including amendments**
National Regulations:	**The Chemicals (Hazard Information and Packaging for Supply) Regulations 2002. No 1689 Workplace Exposure Limits 2005 (EH40) Health and Safety at Work Act (as amended) 1974 Control of Substances Hazardous to Health Regulations 2002 Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning REACH, establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2002/21/EC, including amendments**

15.2 Chemical Safety Assessment

No chemical safety assessment has been carried out.

16. OTHER INFORMATION

Revision date: 16/07/2015
Version: 5
Replaces version dated: 14/02/2011
Author: Steven Johnston

Full text of H-Statements referred to under Sections 2 and 3	
H319	Causes serious eye irritation
Full text of R-Phrases referred to under Sections 2 and 3	
R36	Irritating to eyes

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