



# SAFETY DATA SHEET

DOW CHEMICAL THAILAND LTD

**Product name:** SUNSPHERES™ PGL Polymer

**Issue Date:** 13.06.2021

**Print Date:** 10.12.2021

DOW CHEMICAL THAILAND LTD encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

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## 1. PRODUCT AND COMPANY IDENTIFICATION

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**Product name:** SUNSPHERES™ PGL Polymer

**Recommended use of the chemical and restrictions on use**

**Identified uses:** Personal care

### COMPANY IDENTIFICATION

DOW CHEMICAL THAILAND LTD  
75,  
SOI SAENGCHAN-RUBIA, SUKHUMVIT ROAD,  
PHRA KHANONG, KHLONG TOEY,  
BANGKOK 10110  
THAILAND

**Customer Information Number:**

(66)2-3657000  
SDSQuestion@dow.com

### EMERGENCY TELEPHONE NUMBER

**24-Hour Emergency Contact:** (66)38-925-400

**Local Emergency Contact:** 038-925-400

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## 2. HAZARDS IDENTIFICATION

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### GHS Classification

This product is not hazardous per the Globally Harmonized System of Classification and Labelling (GHS).

### Other hazards

No data available

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## 3. COMPOSITION/INFORMATION ON INGREDIENTS

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This product is a mixture.

Component	CASRN	Concentration
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Pentanediol	5343-92-0	>= 3.0 - < 10.0 %
Ammonium hydroxide	1336-21-6	>= 0.1 - < 0.25 %

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## 4. FIRST AID MEASURES

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### Description of first aid measures

#### General advice:

If potential for exposure exists refer to Section 8 for specific personal protective equipment.

**Inhalation:** Move person to fresh air and keep comfortable for breathing; consult a physician.

**Skin contact:** Wash off with plenty of water.

**Eye contact:** Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

**Ingestion:** Rinse mouth with water. No emergency medical treatment necessary.

#### Most important symptoms and effects, both acute and delayed:

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

#### Indication of any immediate medical attention and special treatment needed

**Notes to physician:** No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

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## 5. FIREFIGHTING MEASURES

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### Extinguishing media

**Suitable extinguishing media:** Use extinguishing media appropriate for surrounding fire..

**Unsuitable extinguishing media:** None known..

### Special hazards arising from the substance or mixture

**Hazardous combustion products:** Carbon dioxide.. Carbon monoxide..

**Unusual Fire and Explosion Hazards:** Material can splatter above 100C/212F.. Dried product can burn..

### Advice for firefighters

**Fire Fighting Procedures:** No data available

**Special protective equipment for firefighters:** Wear self-contained breathing apparatus and protective suit..

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## 6. ACCIDENTAL RELEASE MEASURES

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**Personal precautions, protective equipment and emergency procedures:** Use personal protective equipment. Keep people away from and upwind of spill/leak. Material can create slippery conditions.

**Environmental precautions:** CAUTION: Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

**Methods and materials for containment and cleaning up:** Contain spills immediately with inert materials (e.g., sand, earth). Transfer liquids and solid diking material to separate suitable containers for recovery or disposal.

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## 7. HANDLING AND STORAGE

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**Precautions for safe handling:** Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Keep container tightly closed. Do not breathe vapors, mist or gas.

**Conditions for safe storage:** Keep from freezing - product stability may be affected. STIR WELL BEFORE USE.

### Storage stability

**Storage temperature:** 1 - 49 °C

Other data: Monomer vapors can be evolved when material is heated during processing operations. See SECTION 8, for types of ventilation required.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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### Control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Component	Regulation	Type of listing	Value
Ammonium hydroxide	ACGIH	TWA	25 ppm, Ammonia
	ACGIH	STEL	35 ppm, Ammonia
	Dow IHG	TWA	10 ppm, As Ammonia
	TH OEL	TWA	35 mg/m <sup>3</sup> 50 ppm

### Exposure controls

**Engineering controls:** Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

### Individual protection measures

**Eye/face protection:** Use safety glasses (with side shields).

#### Skin protection

**Hand protection:** Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Examples of preferred glove barrier

materials include: Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). Avoid gloves made of: Polyvinyl alcohol ("PVA").

NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

**Other protection:** Wear clean, body-covering clothing.

**Respiratory protection:** Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator.

The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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### Appearance

Physical state	liquid milky
Color	white
Odor	Ammonia odor
Odor Threshold	No data available
pH	6.5 - 7.5
Melting point/range	1.00 °C Water
Freezing point	No data available
Boiling point (760 mmHg)	100.00 °C Water
Flash point	Noncombustible
Evaporation Rate (Butyl Acetate = 1)	<1.00 Water
Flammability (solid, gas)	Not Applicable
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Vapor Pressure	2,266.4808000 Pa at 20.00 °C Water
Relative Vapor Density (air = 1)	<1.0000 Water
Relative Density (water = 1)	1.1000 - 1.2000
Water solubility	partly miscible
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	Not applicable
Decomposition temperature	> 177.00 °C Thermal decomposition may yield styrene and acrylic monomers.
Dynamic Viscosity	100.000 mPa.s maximum

<b>Kinematic Viscosity</b>	No data available
<b>Explosive properties</b>	No data available
<b>Oxidizing properties</b>	No data available
<b>Molecular weight</b>	No data available
<b>Percent volatility</b>	74.00 - 75.00 %
<b>Particle size</b>	Not applicable

NOTE: The physical data presented above are typical values and should not be construed as a specification.

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## 10. STABILITY AND REACTIVITY

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**Reactivity:** None reasonably foreseeable.

**Chemical stability:** Stable

**Possibility of hazardous reactions:** Product will not undergo polymerization.

**Conditions to avoid:** No data available

**Incompatible materials:** There are no known materials which are incompatible with this product.

**Hazardous decomposition products**

No hazardous decomposition products are known.

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## 11. TOXICOLOGICAL INFORMATION

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*Toxicological information appears in this section when such data is available.*

**Acute toxicity (represents short term exposures with immediate effects - no chronic/delayed effects known unless otherwise noted)**

**Acute oral toxicity**

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

For similar material(s):

LD50, Rat, male, > 5,000 mg/kg

**Information for components:**

**Pentanediol**

LD50, Rat, male and female, > 5,000 mg/kg OECD Test Guideline 401

**Ammonium hydroxide**

Single dose oral LD50 has not been determined.

**Acute dermal toxicity**

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

For similar material(s):  
LD50, Rabbit, > 2,000 mg/kg

**Information for components:**

**Pentanediol**

LD50, Rat, male and female, > 2,000 mg/kg OECD Test Guideline 402

**Ammonium hydroxide**

The dermal LD50 has not been determined.

**Acute inhalation toxicity**

With good ventilation, single exposure is not likely to be hazardous. In poorly ventilated areas, vapors or mists may accumulate and cause respiratory irritation.

As product: The LC50 has not been determined.

**Information for components:**

**Pentanediol**

Prolonged excessive exposure may cause adverse effects.

LC50, Rat, male and female, 1 Hour, Aerosol, estimated 14.030 mg/l OECD Test Guideline 403

**Ammonium hydroxide**

The LC50 has not been determined.

**Skin corrosion/irritation**

Based on product testing:  
Brief contact is essentially nonirritating to skin.

**Information for components:**

**Pentanediol**

Prolonged contact is essentially nonirritating to skin.

**Ammonium hydroxide**

Brief contact may cause skin burns. Symptoms may include pain, severe local redness and tissue damage.

Classified as corrosive to the skin according to DOT guidelines.

**Serious eye damage/eye irritation**

Based on product tested:  
May cause slight temporary eye irritation.  
Corneal injury is unlikely.

**Information for components:**

**Pentanediol**

May cause severe eye irritation.  
May cause severe corneal injury.

**Ammonium hydroxide**

May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

**Sensitization**

Based on product testing:

Did not cause allergic skin reactions when tested in humans.

For respiratory sensitization:

No relevant data found.

**Information for components:**

**Pentanediol**

Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:

No relevant data found.

**Ammonium hydroxide**

For skin sensitization:

No relevant data found.

For respiratory sensitization:

No relevant data found.

**Specific Target Organ Systemic Toxicity (Single Exposure)**

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

**Information for components:**

**Ammonium hydroxide**

May cause respiratory irritation.

Route of Exposure: Inhalation

Target Organs: Respiratory Tract

**Aspiration Hazard**

Based on physical properties, not likely to be an aspiration hazard.

**Information for components:**

**Pentanediol**

Based on available information, aspiration hazard could not be determined.

**Ammonium hydroxide**

Aspiration into the respiratory system may occur during ingestion or vomiting. Due to corrosivity, tissue damage or lung injury may occur.

**Chronic toxicity (represents longer term exposures with repeated dose resulting in chronic/delayed effects - no immediate effects known unless otherwise noted)**

**Specific Target Organ Systemic Toxicity (Repeated Exposure)**

No relevant data found.

**Information for components:**

**Pentanediol**

No relevant data found.

**Ammonium hydroxide**

No relevant data found.

**Carcinogenicity**

No relevant data found.

**Information for components:**

**Pentanediol**

No relevant data found.

**Ammonium hydroxide**

Did not cause cancer in laboratory animals.

**Teratogenicity**

No relevant data found.

**Information for components:**

**Pentanediol**

No relevant data found.

**Ammonium hydroxide**

No relevant data found.

**Reproductive toxicity**

No relevant data found.

**Information for components:**

**Pentanediol**

No relevant data found.

**Ammonium hydroxide**

No relevant data found.

**Mutagenicity**

Based on product testing: In vitro genetic toxicity studies were negative.

**Information for components:**

**Pentanediol**

In vitro genetic toxicity studies were negative.

**Ammonium hydroxide**

In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

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## **12. ECOLOGICAL INFORMATION**

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*Ecotoxicological information appears in this section when such data is available.*

## **Ecotoxicity**

### **Pentanediol**

#### **Acute toxicity to fish**

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).  
LC50, Danio rerio (zebra fish), static test, 96 Hour, > 1,096 mg/l

#### **Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna (Water flea), EC50, 48 Hour, > 500 mg/l

#### **Acute toxicity to algae/aquatic plants**

EC50, Algae (Scenedesmus subspicatus), Static, 72 Hour, Growth rate inhibition, 9,334.69 mg/l

#### **Toxicity to bacteria**

EC50, Pseudomonas putida, Static, 17 Hour, > 10,000 mg/l

### **Ammonium hydroxide**

#### **Acute toxicity to fish**

Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).

May increase pH of aquatic systems to > pH 10 which may be toxic to aquatic organisms.

LC50, Lepomis macrochirus (Bluegill sunfish), 96 Hour, 0.87 mg/l

LC50, Pimephales promelas (fathead minnow), 96 Hour, 1.2 mg/l

#### **Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna (Water flea), 48 Hour, 0.66 mg/l

## **Persistence and degradability**

### **Pentanediol**

**Biodegradability:** Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

**Biodegradation:** 73 %

**Exposure time:** 28 d

### **Ammonium hydroxide**

**Biodegradability:** Biodegradation may occur under aerobic conditions (in the presence of oxygen). Biodegradation rate may increase in soil and/or water with acclimation.

**Theoretical Oxygen Demand:** 0.76 mg/mg

## **Bioaccumulative potential**

### **Pentanediol**

**Partition coefficient: n-octanol/water(log Pow):** 0.06

### **Ammonium hydroxide**

**Bioaccumulation:** No bioconcentration is expected because of the relatively high water solubility.

#### **Mobility in Soil**

##### **Pentanediol**

No relevant data found.

##### **Ammonium hydroxide**

Potential for mobility in soil is very high (Koc between 0 and 50).

#### **Results of PBT and vPvB assessment**

##### **Pentanediol**

This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

##### **Ammonium hydroxide**

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

#### **Other adverse effects**

##### **Pentanediol**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

##### **Ammonium hydroxide**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

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### **13. DISPOSAL CONSIDERATIONS**

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**Disposal methods:** Coagulate the emulsion by the stepwise addition of ferric chloride and lime. Remove the clear supernatant and flush to a chemicalsewer. For disposal, incinerate or landfill at a permitted facility in accordance with local, state, and federal regulations.

**Contaminated packaging:** Empty containers retain product residues. Follow label warnings even after container is emptied. Improper disposal or reuse of this container may be dangerous and illegal. Refer to applicable federal, state and local regulations.

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### **14. TRANSPORT INFORMATION**

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#### **Classification for ROAD and Rail transport:**

Not regulated for transport

#### **Classification for SEA transport (IMO-IMDG):**

Not regulated for transport

**Transport in bulk  
according to Annex I or II  
of MARPOL 73/78 and the  
IBC or IGC Code**

Consult IMO regulations before transporting ocean bulk

**Classification for AIR transport (IATA/ICAO):**

Not regulated for transport

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

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## 15. REGULATORY INFORMATION

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**Emergency Decree on Controlling the Use of Volatile Substances B.E. 2533**

Not applicable

**Hazardous Substance Act B.E. 2535**

Department of Agriculture

Not applicable

Department of Energy Business

Not applicable

Department of Livestock

Not applicable

Department of Industrial Works

Not applicable

Food and Drug Administration

Not applicable

Department of Fisheries

Not applicable

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## 16. OTHER INFORMATION

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**Revision**

Identification Number: 10038481 / A176 / Issue Date: 13.06.2021 / Version: 2.0

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

**Legend**

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
Dow IHG	Dow Industrial Hygiene Guideline
STEL	Short-term exposure limit
TH OEL	Thailand. Occupational Exposure Limits

TWA	Time weighted average
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**Full text of other abbreviations**

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECS - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

DOW CHEMICAL THAILAND LTD urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

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