



# DOUBLE BOND CHEMICAL IND. CO., LTD SAFETY DATA SHEET

In accordance with Regulation (EC) 1907/2006 (REACH), Annex II-Europe

## 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1 Product identifier:

**Substance name:** CHINOX® S4P  
**Other name:** CN S4P  
**REACH Registration No.:** Not available  
**Recommended use of the chemical and restrictions on use:** Antioxidant for the polymer industry  
Industrial;

### 1.2 Manufacturer or supplier information

**Company name:** Double Bond Chemical Ind. Co., Ltd.  
**Address:** 4F, 959, JUNGJENG RD. JUNGHE DISTRICT,  
NEW TAIPEI CITY, TAIWAN, R.O.C  
**Emergency contact person:** Shari Huang  
**Emergency phone/ fax number:** +886-2-8228-1168/ +886-2-8228-1818  
**Emergency contact Email:** techdata@dbc.com.tw

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture:

#### 2.1.1 Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified according to Regulation (EC) No. 1272/2008 [CLP]

#### 2.1.2 Additional information

No other information.

### 2.2 Label elements:

**Symbols:** No symbol

**Signal word:** No Signal word

**Hazard substance:** Not classified as hazard substance.

**Hazard statement:** No Hazard statements.

**Precautionary statements:** No Precautionary statements.

### 2.3 Other hazards:

None to our knowledge.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No.	EC No.	Weight % content	Classification according to Regulation (EC) No 1272/2008
2,2-bis[[3-(dodecylthio)-1-oxopropoxy]methyl]propane-1,3-diyl bis[3-(dodecylthio)propionate]	29598-76-3	249-720-9	99% min.	Not classified as hazard substance.

## 4. FIRST-AID MEASURES

<b>Eye contact:</b>	Immediately wash eyes with plenty of running water for at least 15 minutes minimum. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. Occasionally lift the upper and lower eyelids. Seek medical advice if irritation develops and persists.
<b>Skin contact:</b>	Wash affected skin area with plenty of water and soap for at least 15 minutes while removing contaminated clothing and shoes. Seek medical advice if irritation develops and persists.
<b>Ingestion:</b>	Seek medical advice if the victim feels unwell. Wash out mouth with plenty of water and give 2-4 cupful of water or milk to drink. Never give anything by mouth to an unconscious person. Do not induce vomiting.
<b>Inhalation:</b>	Remove the victim from exposure into fresh air if adverse effects (e.g. dizziness, drowsiness or respiratory irritation) occur. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical advice if cough or other symptoms appear.
<b>The most important symptoms and hazardous effects:</b>	See Section 11 for more detailed information on effects and symptoms.

## 5. FIRE-FIGHTING MEASURES

<b>Suitable extinguishing media:</b>	Water fog or fine spray, dry chemical fire, carbon dioxide extinguishers and foam; alcohol resistant foam (ACT type) are preferred; general purpose synthetic foams (including AFFF) or protein foams may function but will be less effective.
<b>Unsuitable extinguishing media:</b>	Direct water stream.
<b>Exposure hazards (combustion products):</b>	During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/ or irritating. Combustion products may include and are not limited to: Carbon oxides.
<b>Unusual fire and explosion hazards:</b>	Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Vapours are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flash back may occur.
<b>Special protective equipment for firefighters:</b>	Wear positive-pressure self-contained breathing apparatus (SCBA) and protective firefighting clothing (includes firefighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.
<b>Special methods/instructions:</b>	Keep people away. Isolate fire and deny unnecessary entry. Stay up wind. Keep out of low areas where gases (fumes) can accumulate. Water may not be effective in extinguishing fire. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire. Eliminate ignition sources. Move container from

fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions:

Wear appropriate personal protective equipment (see section 8) during cleaning. Avoid contact with eyes and skin. Avoid inhalation. No smoking in the area. Eliminate all sources of ignition in vicinity of spill or released vapour to avoid fire or explosion. Check area with combustible gas detector before re-entering area.

### Environmental precautions:

Prevent the material from entering surface water or sanitary sewer system. Do not discharge directly to a water source. If accidental spillage or washings enter drains or watercourses contact local Environment Agency.

### Methods for cleaning up:

Pick up with absorbent material. Sweep up absorbed substance, place in suitable and properly labelled waste containers for later disposal. Residual trace can be wiped away. Prevent entry into sewers and waterways. For large spills: Contain spilled material if possible. Ground and bond all containers and handling equipment. Pump with explosion-proof equipment. If available, use foam to smother or suppress.

## 7. HANDLING AND STORAGE

### 7.1 Handling

#### Personal precautions:

Wear personal protective equipment (see section 8). Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Avoid breathing vapour. No smoking, open flames or sources of ignition in handling and storage area.

#### Technical measures/ Precautions:

Provide good ventilation (local exhaust) of the working area, safety showers and eye wash station near the workplace. Use explosion-proof electrical equipment. Use only non-sparking tools.

### 7.2 Storage

#### Technical measures Storage conditions:

Keep in the original container. Keep container tightly closed in a cool, dry, well-ventilated place. Keep product away from heat, sparks, flame and other sources of ignition and out of direct sunlight and away from incompatible materials. Store at room temperature and away from heat sources, strong oxidizers, radiation and other initiators.

#### Incompatible products:

Strong oxidizing agents, alkaline and aqueous acids.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Occupational exposure limits

#### 8.1.1 Control parameters

8 hours time weighted average exposure limits (TWA): Data not yet available.

### 8.2 Exposure controls

#### 8.2.1 Technical measures:

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use

explosion-proof ventilation equipment.

### 8.2.2 Organisational measures:

Only personnel who have received appropriate training and are authorized allowed to handle the substance. Organize regular exposure monitoring to check that exposure levels of operators stay beyond exposure limit. Sampling and analysis should be carried out according to accepted methods.

### 8.3 Personal protective equipment

<b>Respiratory protection:</b>	Recommended: NIOSH-approved respirator with minimum APF 10 For emergency conditions, use an approved positive-pressure self-contained breathing apparatus. Use the following CE approved air-purifying respirator: Organic vapor cartridge, type A (boiling point >65 °C).
<b>Hand protection:</b>	When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 1 or higher (breakthrough time greater than 10 minutes according to EN 374) is recommended. After contamination with product change the gloves immediately and dispose them off according to relevant national and local regulations.
<b>Eye protection:</b>	Safety goggles should be consistent with EN 166 or equivalent.
<b>Skin and body protection:</b>	Wear chemical-resistant protective clothing.

### 8.4 Hygiene measures

Keep away from foodstuffs, drinks and tobacco. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

### 8.5 Environmental exposure controls:

Procedural and/or control technologies are used to minimize emissions and the resulting exposure during cleaning and maintenance procedures.

Transfer waste gases to a combustion unit or to a powder separator.

Do not apply industrial sludge to natural soils. Sealing of all relevant soil surfaces in the facility.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	White Crystalline powder
<b>Odour:</b>	Odourless
<b>Odour threshold:</b>	No data available
<b>pH:</b>	No data available
<b>Melting/Freezing temperature:</b>	48-54°C
<b>Boiling point:</b>	No data available
<b>Flashpoint:</b>	No data available
<b>Evaporation rate:</b>	No data available
<b>Auto ignition temperature:</b>	No data available
<b>Decomposition temperature:</b>	No data available
<b>Flammability:</b>	No data available

<b>Upper/lower flammability or explosive limits:</b>	No data available
<b>Explosive properties:</b>	No data available
<b>Oxidizing properties:</b>	No data available
<b>Vapour pressure:</b>	No data available
<b>Vapour density:</b>	No data available
<b>Relative density:</b>	No data available
<b>Solubility in water:</b>	No data available
<b>Viscosity:</b>	No data available
<b>Specific gravity:</b>	No data available
<b>Partition coefficient of n-octanol/water (log Pow):</b>	No data available

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability:</b>	Stable under normal conditions and recommended use.
<b>Conditions to be avoided:</b>	Static discharges. Keep product away from heat, sparks, flame and other sources of ignition. Avoid direct sunlight and UV light.
<b>Materials to be avoided:</b>	Strong oxidizing agents, alkaline and strong acids.
<b>Hazardous polymerization</b>	Will not occur.
<b>Hazardous decomposition products:</b>	Thermal decomposition and burning may produce carbon oxides and other toxic gases and vapors.

## 11. TOXICOLOGICAL INFORMATION

<b>Routes of exposure:</b>	Skin, inhalation, ingestion, eyes.
<b>ACUTE TOXICITY</b>	
<b>Acute oral toxicity, LD<sub>50</sub>:</b>	>15000 mg/kg
<b>Acute dermal toxicity, LD<sub>50</sub>:</b>	No data available
<b>Acute inhalation toxicity, LC<sub>50</sub>:</b>	No data available
<b>LOCAL EFFECTS</b>	
<b>Skin irritation:</b>	No data available
<b>Eye irritation:</b>	No data available
<b>Skin sensitization:</b>	No data available
<b>OTHER</b>	
<b>Repeated dose toxicity:</b>	LOAEL=100 mg/kg-bw/day (based on histopathological changes in the heart in males and females and increased AST levels in males)
<b>Mutagenicity:</b>	Not mutagenic in bacterial assays and did not induce chromosomal aberrations in mammalian cells in vitro.
<b>Reproductive toxicity:</b>	NOAEL (reproductive toxicity) = 1000 mg/kg-bw/day
<b>Carcinogenicity:</b>	No data available

## 12. ECOLOGICAL INFORMATION

<b>ACUTE TOXICITY</b>	
<b>LC<sub>50</sub>-Fish-96h:</b>	No data available

<b>EC<sub>50</sub>-Algae-72h:</b>	No data available
<b>IC<sub>50</sub>-Bacteria-3h:</b>	No data available
<b>EC<sub>50</sub>-Invertebrate-48h:</b>	No data available

**OTHER**

<b>Biodegradation:</b>	4% after 28 days-Not readily biodegradable
<b>Bioaccumulation</b>	No data available
<b>Inhibition of microbial activity:</b>	No data available
<b>Adsorption coefficient:</b>	No data available
<b>Results of PBT and vPvB assessment:</b>	No data available

**13. DISPOSAL CONSIDERATIONS**

<b>Waste from residues:</b>	Any disposal practices must in compliance with all national and provincial laws and any municipal or local by-laws governing hazardous waste. For used, contaminated and residual materials additional evaluations may be required. Do not dump into any sewers, on the ground, or into any body of water.
<b>Container:</b>	Containers should be cleaned by appropriate method and then re-used or disposed by landfill or incineration as appropriate, in accordance with local and national regulations. Do not remove label until container is thoroughly cleaned.

**14. TRANSPORT INFORMATION**

<b>United nations number (UN No.):</b>	Not classified as hazard transport goods.
<b>Transport hazardous class:</b>	Not classified as hazard transport goods.
<b>UN Proper shipping name:</b>	Not classified as hazard transport goods.
<b>Marine pollutant (YES/NO):</b>	Not classified as hazard transport goods.
<b>ADR/RID:</b>	Not classified as hazard transport goods.
<b>IMDG/IMO:</b>	Not classified as hazard transport goods.
<b>IATA/ICAO:</b>	Not classified as hazard transport goods.
<b>Specific transport measures and precautionary conditions:</b>	Not classified as hazard transport goods.

**15. REGULATORY INFORMATION**

**HMIS Classification**

Health Hazard: 1 Flammability:1 Physical Hazards: 0 Personal Protection: F

**NFPA Classification**

Health Hazard: 1 Flammability: 1 Instability: 0

**Chemical Inventories**

- Australia - AICS
- Canada - DSL
- China - IECSC
- Korea - ECL



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USA - TSCA

Philippines – PICCS

Japan – ENCS No.: 2-1391

EU – EINECS No.: 249-720-9

**16. OTHER INFORMATION**

<b>Shelf life</b>	2 years	
<b>Reference documents</b>	European Chemicals Agency (ECHA)	
<b>SDS prepared by</b>	<b>Company name</b>	DOUBLE BOND CHEMICAL IND. CO., LTD.
	<b>Address</b>	4F, 959, JUNGJENG RD., JUNGHE DISTRICT, NEW TAIPEI CITY, 23544 TAIWAN, R.O.C
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	<b>Title / Name (signature)</b>	Technical Data Administrator / Janice Sung

*The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The above details do not imply any guarantee concerning composition, properties or performance.*

