

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 01/17/2023

Version No: 11.05

Reviewed on 01/17/2023

**1 Identification****Product identifier****Trade name:**  
**SONGNOX® 1680****SONGNOX® 1680 PW, SONGNOX® 1680 FF****CAS Number:**

31570-04-4

**EC number:**

250-709-6

**Recommended use:**Antioxidant  
Plastic additive**Restrictions on use:** Uses not specified**Details of the supplier of the safety data sheet****Manufacturer/Supplier:**Songwon Industrial Co., Ltd.  
83, Jangsaengpo-ro, Nam-gu, Ulsan, Korea  
Tel: +82 (0)52-273-9841  
Fax: +82 (0)52-272-3528  
Email: sds@songwon.comSongwon International AG  
Walzmühlestrasse 48  
CH-8500 Frauenfeld  
Tel: +41 (0)52 635 00 00  
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Email: sds@songwon.com**Emergency telephone number:**North East Asia / South East Asia: Call Songwon Ind. Tel: +82 (0)52-273-9841  
Europe / Middle East / India / Africa: Call BIG Tel: +32 (0)14-584545  
Americas: Call CHEMTREC Day or Night DOMESTIC NORTH AMERICA 1-800-424-9300  
INTERNATIONAL, CALL USA 703-527-3887 (collect calls accepted)**2 Hazard(s) identification****Classification of the substance or mixture**

Combustible Dust May form combustible dust concentrations in the air.

**Additional information:**

Granular or free flow product grades may form combustible dust concentrations in air if processing activities significantly reduce the particle size (e.g. mechanical or pneumatic conveying, grinding, pulverizing).

The powder grades of this product may form combustible dust concentrations in air.

**Label elements****GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

**Hazard pictograms** Void**Signal word** Warning**Hazard statements**

May form combustible dust concentrations in the air.

**Additional information:**

Granular or free flow product grades may form combustible dust concentrations in air if processing activities significantly reduce the particle size (e.g. mechanical or pneumatic conveying, grinding,

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pulverizing).

The powder grades of this product may form combustible dust concentrations in air.

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** No
- **vPvB:** No

**3 Composition/information on ingredients**

- **Chemical characterization: Substances**
- **CAS No. Description**  
31570-04-4 Tris(2,4-di-tert-butylphenyl)phosphite
- **Identification number(s)**
- **EC number:** 250-709-6

**4 First-aid measures**

- **Description of first aid measures**
- **General information:**  
No special measures required.  
If symptoms persist consult doctor.
- **After inhalation:** Supply fresh air.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:**  
Rinse opened eye for several minutes under running water.  
Remove contact lenses, if present and easy to do. Continue rinsing.
- **After swallowing:** Rinse mouth.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

**5 Fire-fighting measures**

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.  
Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture**  
Formation of toxic gases is possible during heating or in case of fire.  
In case of fire, the following can be released:  
Carbon monoxide  
Carbon dioxide  
Phosphorus compounds
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.
- **Additional information**  
Cool endangered receptacles with water spray.

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Collect contaminated fire fighting water separately. It must not enter the sewage system.

**6 Accidental release measures****Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation.

Wear protective clothing.

Avoid formation of dust.

Keep away from ignition sources.

**Environmental precautions:** Do not allow product to reach sewage system or any water course.**Methods and material for containment and cleaning up:**

Pick up mechanically.

Dispose of the collected material according to regulations.

**Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

**7 Handling and storage****Handling:****Precautions for safe handling**

Prevent formation of dust.

Any deposit of dust which cannot be avoided must be regularly removed.

Ensure good ventilation/exhaustion at the workplace.

**Information about protection against explosions and fires:**

Dust can combine with air to form an explosive mixture.

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

**Conditions for safe storage, including any incompatibilities****Storage:****Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.**Information about storage in one common storage facility:** Store away from oxidizing agents.**Further information about storage conditions:**

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

**Specific end use(s)** No further relevant information available.**\* 8 Exposure controls/personal protection****Additional information about design of technical systems:** No further data; see item 7.**Control parameters****Components with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

**Additional Occupational Exposure Limit Values for possible hazards during processing:**PEL: 15\* 5\*\* mg/m<sup>3</sup>

\* total dust \*\*respirable fraction

REL: 10\* 5\*\* mg/m<sup>3</sup>

\* total dust \*\*respirable fraction

TLV: 10 mg/m<sup>3</sup>

Dust Value

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- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
 Do not eat, drink, smoke or sniff while working.  
 Keep away from foodstuffs, beverages and feed.  
 The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** Not necessary if room is well-ventilated.
- **Protection of hands:**  
 Protective gloves and protective skin cream  
 The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
 Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**  
 The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
- **Penetration time of glove material**  
 The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Safety glasses
- **Body protection:** Protective work clothing
- **Limitation and supervision of exposure into the environment** No further relevant information available.

## \* 9 Physical and chemical properties

· <b>Information on basic physical and chemical properties</b>	
· <b>General Information</b>	
· <b>Appearance:</b>	
· <b>Form:</b>	Solid in various forms
· <b>Color:</b>	White
· <b>Odor:</b>	Odorless
· <b>Odor threshold:</b>	Not determined.
· <b>pH-value:</b>	Not applicable.
· <b>Change in condition</b>	
· <b>Melting point/Melting range:</b>	185.2 °C (365.4 °F) (EU Method A.1 (DSC))
· <b>Boiling point/Boiling range:</b>	> 400 °C (> 752 °F) (OECD Guideline 103)
· <b>Flash point:</b>	Not applicable.
· <b>Flammability (solid, gaseous):</b>	Product is not flammable.
· <b>Ignition temperature:</b>	Not determined.
· <b>Decomposition temperature:</b>	Not applicable.
· <b>Danger of explosion:</b>	Product is not explosive. However, formation of explosive air/dust mixtures are possible.
· <b>Explosion limits:</b>	
· <b>Lower:</b>	Not applicable.
· <b>Upper:</b>	Not applicable.
· <b>Oxidizing properties</b>	No
· <b>Vapor pressure at 20 °C (68 °F):</b>	0 hPa (DSC (TGS curve))
· <b>Density at 20 °C (68 °F):</b>	1.021 g/cm <sup>3</sup> (8.52024 lbs/gal) (OECD Guideline 109)
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not applicable.

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· <b>Evaporation rate</b>	Not applicable.
· <b>Solubility in / Miscibility with Water at 20 °C (68 °F):</b>	<0.000005 g/L (OECD Guideline 105)
· <b>Partition coefficient (n-octanol/water) at 25 °C (77 °F):</b>	18 log POW (calculated) Not determined.
· <b>Viscosity:</b> Dynamic: Kinematic:	Not applicable. Not applicable.
· <b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability** No decomposition if used and stored according to specifications.
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Based on available data, the classification criteria are not met.

- **LD/LC50 values that are relevant for classification:**

Oral	LD50	> 6000 mg/kg (Rat) (OECD Guideline 401)
Dermal	LD50	> 2000 mg/kg (Rat) (OECD Guideline 402)

- **Primary irritant effect:**
- **on the skin:** Based on available data, the classification criteria are not met.
- **on the eye:** Based on available data, the classification criteria are not met.
- **Sensitization:** Based on available data, the classification criteria are not met.
- **Additional toxicological information:**
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)** Substance is not listed.
- **NTP (National Toxicology Program)** Substance is not listed.
- **OSHA-Ca (Occupational Safety & Health Administration)** Substance is not listed.

## \*12 Ecological information

- **Toxicity**

· <b>Aquatic toxicity:</b>		
EC50 (24h) (static)	180 mg/L (Daphnia) (OECD Guideline 202, Daphnia magna)	nominal
EC50 (72h) (static)	> 75.2 mg/L (Algae) (OECD Guideline 201, Desmodesmus subspicatus)	

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NOEC (96h) (static)	≥ 100 mg/L (Fish) (OECD Guideline 203, Danio rerio) nominal
NOEC (72h) (static)	> 75.2 mg/L (Algae) (OECD Guideline 201, Desmodesmus subspicatus)
IC50 (3h) (static)	> 100 mg/L (Bacteria) (OECD Guideline 209, activated sludge)
NOEL (21d)	≥ 2 mg/L (Daphnia) (OECD Guideline 211)

- **Persistence and degradability**

Not readily biodegradable

3-6 % (28 d, OECD Guideline 301 B)

- **Behavior in environmental systems:**

- **Bioaccumulative potential** Not worth-mentioning accumulation in organisms

- **Mobility in soil** 11.33 log Koc (calculated)

- **Ecotoxicological effects:**

- **Remark:**

No effects at its water solubility.

Tested above the maximum solubility.

- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:** Must be specially treated adhering to official regulations.

- **Uncleaned packagings**

- **Recommendation:** Disposal must be made according to official regulations.

### 14 Transport information

· <b>UN-Number</b>	
· <b>DOT, ADR/RID/ADN, IMDG, IATA</b>	Void
· <b>UN proper shipping name</b>	
· <b>DOT, ADR/RID/ADN, IMDG, IATA</b>	Void
· <b>Transport hazard class(es)</b>	
· <b>DOT, ADR/RID/ADN, IMDG, IATA</b>	
· <b>Class</b>	Void
· <b>Packing group</b>	
· <b>DOT, ADR/RID/ADN, IMDG, IATA</b>	Void
· <b>Environmental hazards:</b>	
· <b>Marine pollutant:</b>	No
· <b>Special precautions for user</b>	Not applicable.
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:</b>	Not applicable.
· <b>Transport/Additional information:</b>	Not dangerous according to the above specifications.

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· UN "Model Regulation":	Void
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**\*15 Regulatory information**

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**  
No further relevant information available.
- **SARA**
- **Section 355 (extremely hazardous substances):** Substance is not listed.
- **Section 313 (Specific toxic chemical listings):** Substance is not listed.
- **TSCA (Toxic Substances Control Act) Inventory:** ACTIVE
- **Hazardous Air Pollutants** Substance is not listed.
- **Proposition 65**
- **Chemicals known to cause cancer:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for females:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for males:** Substance is not listed.
- **Chemicals known to cause developmental toxicity:** Substance is not listed.
- **New Jersey Right-to-Know List:** Substance is not listed.
- **New Jersey Special Hazardous Substance List:** Substance is not listed.
- **Pennsylvania Right-to-Know List:** Substance is not listed.
- **Pennsylvania Special Hazardous Substance List:** Substance is not listed.
- **Carcinogenicity categories**
- **EPA (Environmental Protection Agency)** Substance is not listed.
- **TLV (Threshold Limit Value)** Substance is not listed.
- **NIOSH-Ca (National Institute for Occupational Safety and Health)** Substance is not listed.

**\*16 Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:**  
Chemservice S.A.  
13, Fausermillen  
L-6689 Mertert, Luxembourg  
Tel.: +352 270776-1  
Fax: +352 270776-75  
Email: sds@chemservice-group.com
- **Contact:**
- **Date of preparation / last revision** 01/17/2023
- **Abbreviations and acronyms:**  
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
ICAO: International Civil Aviation Organisation  
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals  
MARPOL: (from Marine Pollutant) International Convention for the Prevention of Marine Pollution from Ships  
IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk  
UN: United Nations (also UNO: United Nations Organization)  
NOEC: No Observed Effect Concentration  
OECD: Organisation for Economic Co-operation and Development  
ASTM: American Society for Testing and Materials  
WAF: Water Accommodated Fraction  
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
DOT: US Department of Transportation

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IATA: International Air Transport Association  
EINECS: European Inventory of Existing Commercial Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
NIOSH: National Institute for Occupational Safety  
OSHA: Occupational Safety & Health  
TLV: Threshold Limit Value  
PEL: Permissible Exposure Limit  
REL: Recommended Exposure Limit

· \* Data compared to the previous version altered.

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