

# SAFETY DATA SHEET



Safety Data Sheet according to GB/T 16483-2008 and GB/T 17519-2013

Date of issue/Date of revision 24 November 2019

Version 6.01

## Section 1. Chemical product and company identification

**Product code** : 00327447  
**Product name** : SIGMA ALPHAGEN 230(EXP) REDBROWN  
**Product name** : SIGMA ALPHAGEN 230(EXP) REDBROWN  
**Product type** : Liquid.

### Relevant identified uses of the substance or mixture and uses advised against

**Product use** : Professional applications, Used by spraying.  
**Use of the substance/  
mixture** : Antifouling products  
**Uses advised against** : Not applicable.

**Supplier's details** : PPG Coatings (Kunshan) Co., Ltd  
53 Jinyang Road, Lujia Town,  
215331 Kunshan City, Jiangsu Province, P.R. China  
Tel: 86 512 57678859 Fax: 86 512 57678857

**Emergency telephone  
number (with hours of  
operation)** : 00 86 532 83889090

## Section 2. Hazards identification

Classification of the substance or mixture according to GB 13690-2009 and GB 30000-2013

### Emergency overview

Liquid.  
Brownish-red.  
Aromatic.  
Flammable liquid and vapor.  
Harmful if inhaled.  
May be harmful if swallowed or in contact with skin.  
Causes serious eye damage.  
Causes mild skin irritation.  
May cause an allergic skin reaction.  
May cause respiratory irritation.  
Very toxic to aquatic life with long lasting effects.  
Prolonged or repeated contact may dry skin and cause irritation.

IF INHALED: Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. IF ON SKIN: Call a POISON CENTER or physician if you feel unwell. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Immediately call a POISON CENTER or physician.

See Section 12 for environmental precautions.

## Section 2. Hazards identification

<b>Classification of the substance or mixture</b>	<ul style="list-style-type: none"> <li>: FLAMMABLE LIQUIDS - Category 3</li> <li>ACUTE TOXICITY (oral) - Category 5</li> <li>ACUTE TOXICITY (dermal) - Category 5</li> <li>ACUTE TOXICITY (inhalation) - Category 4</li> <li>SKIN CORROSION/IRRITATION - Category 3</li> <li>SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1</li> <li>SKIN SENSITIZATION - Category 1</li> <li>SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3</li> <li>AQUATIC HAZARD (ACUTE) - Category 1</li> <li>AQUATIC HAZARD (LONG-TERM) - Category 1</li> <li>Percentage of the mixture consisting of ingredient(s) of unknown acute toxicity: 7.3% (Oral), 30% (Dermal), 32.5% (Inhalation)</li> <li>Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 31.7%</li> </ul>
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### GHS label elements

#### Hazard pictograms



#### Signal word

: Danger

#### Hazard statements

: Flammable liquid and vapor.  
Harmful if inhaled.  
May be harmful if swallowed or in contact with skin.  
Causes serious eye damage.  
Causes mild skin irritation.  
May cause an allergic skin reaction.  
May cause respiratory irritation.  
Very toxic to aquatic life with long lasting effects.

### Precautionary statements

#### Prevention

: Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Avoid breathing vapor. Contaminated work clothing should not be allowed out of the workplace.

#### Response

: Collect spillage. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or physician if you feel unwell. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

#### Suitable extinguishing media

: Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.

#### Storage

: Store locked up. Store in a well-ventilated place. Keep cool.

#### Disposal

: Dispose of contents and container in accordance with all local, regional, national and international regulations.

## Section 2. Hazards identification

**Physical and chemical hazards** : Flammable liquid and vapor.

**Health hazards** : Harmful if inhaled. May be harmful if swallowed or in contact with skin. Causes serious eye damage. Causes mild skin irritation. Prolonged or repeated contact may dry skin and cause irritation. May cause an allergic skin reaction. May cause respiratory irritation.

### Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness

**Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing

**Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
dryness  
cracking  
blistering may occur

**Ingestion** : Adverse symptoms may include the following:  
stomach pains

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

**Environmental hazards** : Very toxic to aquatic life with long lasting effects.

**Other hazards which do not result in classification** : Prolonged or repeated contact may dry skin and cause irritation.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

### CAS number/other identifiers

**CAS number** : Not applicable.

### Section 3. Composition/information on ingredients

Ingredient name	%	CAS number
nickel copper oxide	25 - <40	1317-39-1
rosin	10 - <25	8050-09-7
zinc oxide	1 - <10	1314-13-2
Solvent naphtha (petroleum), light aromatic	1 - <10	64742-95-6
4-methylpentan-2-one	1 - <10	108-10-1
zineb (ISO)	1 - <10	12122-67-7
1,2,4-trimethylbenzene	1 - <10	95-63-6
xylene isomers mixture	1 - <10	1330-20-7
Talc , not containing asbestiform fibres	1 - <10	14807-96-6
copper oxide	0.1 - <1	1317-38-0
copper	0.1 - <1	7440-50-8
ethylbenzene	0.1 - <1	100-41-4

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

SUB codes represent substances without registered CAS Numbers.

### Section 4. First aid measures

#### Description of necessary first aid measures

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.
- Inhalation** : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
- Skin contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.
- Ingestion** : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

#### Most important symptoms/effects, acute and delayed

##### Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : Harmful if inhaled. May cause respiratory irritation.
- Skin contact** : May be harmful in contact with skin. Causes mild skin irritation. Defatting to the skin. May cause an allergic skin reaction.
- Ingestion** : May be harmful if swallowed.

##### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing

## Section 4. First aid measures

- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
dryness  
cracking  
blistering may occur
- Ingestion** : Adverse symptoms may include the following:  
stomach pains

### Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

- Specific hazards arising from the chemical** : Flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon oxides  
nitrogen oxides  
sulfur oxides  
metal oxide/oxides  
oxides of lead

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

### Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

- Precautions for safe handling** : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Avoid release to the environment. Refer to special instructions/safety data sheet. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not

## Section 7. Handling and storage

reuse container.

**Conditions for safe storage, including any incompatibilities** : Store between the following temperatures: 0 to 35°C (32 to 95°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
copper oxide	<b>GBZ 2.1 (China, 4/2007).</b> PC-TWA: 0.2 mg/m <sup>3</sup> , (as Cu) 8 hours. Form: fume
rosin	<b>ACGIH TLV (United States, 3/2019). Skin sensitizer. Inhalation sensitizer.</b>
zinc oxide	<b>GBZ 2.1 (China, 4/2007).</b> PC-STEL: 5 mg/m <sup>3</sup> 15 minutes. PC-TWA: 3 mg/m <sup>3</sup> 8 hours.
4-methylpentan-2-one	<b>ACGIH TLV (United States, 3/2019).</b> STEL: 75 ppm 15 minutes. TWA: 20 ppm 8 hours.
1,2,4-trimethylbenzene	<b>ACGIH TLV (United States, 3/2019).</b> TWA: 123 mg/m <sup>3</sup> 8 hours. TWA: 25 ppm 8 hours.
xylene isomers mixture	<b>GBZ 2.1 (China, 4/2007).</b> PC-STEL: 100 mg/m <sup>3</sup> 15 minutes. PC-TWA: 50 mg/m <sup>3</sup> 8 hours.
Talc , not containing asbestiform fibres	<b>GBZ 2.1 (China, 4/2007).</b> PC-TWA: 1 mg/m <sup>3</sup> 8 hours. Form: respirable dust PC-TWA: 3 mg/m <sup>3</sup> 8 hours. Form: total dust
copper oxide	<b>GBZ 2.1 (China, 4/2007).</b> PC-TWA: 0.2 mg/m <sup>3</sup> , (as Cu) 8 hours. Form: fume
copper	<b>GBZ 2.1 (China, 4/2007).</b> PC-TWA: 1 mg/m <sup>3</sup> , (as Cu) 8 hours. Form: dust
ethylbenzene	<b>GBZ 2.1 (China, 4/2007).</b> PC-STEL: 150 mg/m <sup>3</sup> 15 minutes. PC-TWA: 100 mg/m <sup>3</sup> 8 hours.

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

## Section 8. Exposure controls/personal protection

- Appropriate engineering controls** : 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.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

- Hygiene measures** : 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. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye protection** : Chemical splash goggles and face shield.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Gloves** : butyl rubber
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

## Section 9. Physical and chemical properties

### Appearance

- Physical state** : Liquid.
- Color** : Brownish-red.
- Odor** : Aromatic.
- Boiling point** : >37.78°C (>100°F)
- Flash point** : Closed cup: 24°C (75.2°F)



## Section 9. Physical and chemical properties

<b>Lower and upper explosive (flammable) limits</b>	: Greatest known range: Lower: 1.4% Upper: 7.6% (Solvent naphtha (petroleum), light aromatic)
<b>Relative density</b>	: 1.69
<b>Solubility</b>	: Insoluble in the following materials: cold water.
<b>Viscosity</b>	: Kinematic (40°C): >0.21 cm <sup>2</sup> /s

## Section 10. Stability and reactivity

<b>Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	: The product is stable.
<b>Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	: When exposed to high temperatures may produce hazardous decomposition products.
<b>Incompatible materials</b>	: Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.
<b>Hazardous decomposition products</b>	: Depending on conditions, decomposition products may include the following materials: carbon oxides nitrogen oxides sulfur oxides metal oxide/oxides

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
copper oxide	LC50 Inhalation Dusts and mists	Rat	3.34 mg/l	4 hours
	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	1340 mg/kg	-
rosin	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	7600 mg/kg	-
zinc oxide	LC50 Inhalation Dusts and mists	Rat	>5700 mg/m <sup>3</sup>	4 hours
	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
Solvent naphtha (petroleum), light aromatic	LD50 Dermal	Rabbit	3.48 g/kg	-
	LD50 Oral	Rat	8400 mg/kg	-
4-methylpentan-2-one	LC50 Inhalation Vapor	Rat	12.3 mg/l	4 hours
	LD50 Oral	Rat	2.08 g/kg	-
zineb (ISO)	LD50 Oral	Rat	>2000 mg/kg	-
1,2,4-trimethylbenzene	LC50 Inhalation Vapor	Rat	18000 mg/m <sup>3</sup>	4 hours
	LD50 Oral	Rat	5 g/kg	-
xylene isomers mixture	LD50 Dermal	Rabbit	>1.7 g/kg	-
	LD50 Oral	Rat	4.3 g/kg	-
copper oxide	LD50 Oral	Rat	>2000 mg/kg	-

**Section 11. Toxicological information**

ethylbenzene	LC50 Inhalation Vapor	Rat	17.8 mg/l	4 hours
	LD50 Dermal	Rabbit	17.8 g/kg	-
	LD50 Oral	Rat	3.5 g/kg	-

**Irritation/Corrosion**

Product/ingredient name	Result	Species	Score	Exposure	Observation
Xylene isomers mixture	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-

**Sensitization**

Product/ingredient name	Route of exposure	Species	Result
zineb (ISO)	skin	Guinea pig	Sensitizing

**Mutagenicity**

Not available.

**Carcinogenicity**

Not available.

**Reproductive toxicity**

Not available.

**Teratogenicity**

Not available.

**Specific target organ toxicity (single exposure)**

Name	Category	Route of exposure	Target organs
Solvent naphtha (petroleum), light aromatic	Category 3 Category 3	Not applicable. Not applicable.	Narcotic effects Respiratory tract irritation
4-methylpentan-2-one	Category 3	Not applicable.	Respiratory tract irritation
zineb (ISO)	Category 3	Not applicable.	Respiratory tract irritation
1,2,4-trimethylbenzene	Category 3	Not applicable.	Respiratory tract irritation
Talc , not containing asbestiform fibres	Category 3	Not applicable.	Respiratory tract irritation

**Specific target organ toxicity (repeated exposure)**

Name	Category	Route of exposure	Target organs
ethylbenzene	Category 2	Not determined	Not determined

**Aspiration hazard**

Name	Result
Solvent naphtha (petroleum), light aromatic ethylbenzene	ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1

## Section 11. Toxicological information

**Information on the likely routes of exposure** : Not available.

### Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : Harmful if inhaled. May cause respiratory irritation.
- Skin contact** : May be harmful in contact with skin. Causes mild skin irritation. Defatting to the skin. May cause an allergic skin reaction.
- Ingestion** : May be harmful if swallowed.

### Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing
- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
dryness  
cracking  
blistering may occur
- Ingestion** : Adverse symptoms may include the following:  
stomach pains

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Potential chronic health effects

- General** : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/ or dermatitis. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

## Section 11. Toxicological information

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
SIGMA ALPHAGEN 230(EXP) REDBROWN	3536.5	3038.4	N/A	67.2	3.8
dicopper oxide	1340	2500	N/A	N/A	3.34
rosin	7600	2500	N/A	N/A	N/A
zinc oxide	N/A	2500	N/A	N/A	N/A
Solvent naphtha (petroleum), light aromatic	8400	3480	N/A	N/A	N/A
4-methylpentan-2-one	2080	N/A	N/A	12.3	1.5
zineb (ISO)	2500	N/A	N/A	N/A	N/A
1,2,4-trimethylbenzene	5000	N/A	N/A	18	1.5
xylene isomers mixture	4300	1100	N/A	11	1.5
copper oxide	2500	N/A	N/A	N/A	N/A
ethylbenzene	3500	17800	N/A	17.8	1.5

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
dicopper oxide	LC50 0.003 mg/l	Fish	96 hours
zinc oxide	Acute EC50 0.17 mg/l	Algae	72 hours
	Acute EC50 0.481 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Chronic NOEC 0.017 mg/l Fresh water	Algae	72 hours
Solvent naphtha (petroleum), light aromatic	Acute LC50 8.2 mg/l	Fish	96 hours
copper	Acute LC50 810 ppb	Fish	96 hours
ethylbenzene	Acute LC50 150 to 200 mg/l Fresh water	Fish	96 hours

### Persistence/degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
xylene isomers mixture	-	-	Readily
ethylbenzene	-	-	Readily

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
4-methylpentan-2-one	1.31	-	low
zineb (ISO)	1.3	-	-
1,2,4-trimethylbenzene	3.63	120.23	low
xylene isomers mixture	3.16	7.4 to 18.5	low
ethylbenzene	3.15	79.43	low

### Mobility in soil

Soil/water partition coefficient (K<sub>oc</sub>) : Not available.

## Section 12. Ecological information

**Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

	China	UN	IMDG	IATA
<b>UN number</b>	UN1263	UN1263	UN1263	UN1263
<b>UN proper shipping name</b>	PAINT	PAINT	PAINT	PAINT
<b>Transport hazard class(es)</b>	3	3	3	3
<b>Packing group</b>	III	III	III	III
<b>Environmental hazards</b>	Yes. The environmentally hazardous substance mark is not required.	Yes. The environmentally hazardous substance mark is not required.	Yes.	Yes. The environmentally hazardous substance mark is not required.
<b>Marine pollutant substances</b>	Not applicable.	Not applicable.	(dicopper oxide, zinc oxide)	Not applicable.

### Additional information

**CN** : None identified.

**UN** : None identified.

**IMDG** : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.

**IATA** : The environmentally hazardous substance mark may appear if required by other transportation regulations.

**Special precautions for user** : **Transport within user's premises**: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

## Section 15. Regulatory information

**China inventory (IECSC)** : All components are listed or exempted.

**References** :

- Production Safety Law of the People's Republic of China
- Code of Occupational Disease Prevention of the People's Republic of China
- Environmental Protection Law of the People's Republic of China
- Fire Control Law of the People's Republic of China
- Regulations on the Control over Safety of Dangerous Chemicals
- Occupational exposure limits for hazardous agents in the workplace chemical hazardous agents (GBZ2.1)
- General rule for classification and hazard communication of chemicals (GB13690)
- Safety data sheet for chemical products - Content and order of sections (GB/T16483)
- Guidance on the compilation of safety data sheet for chemical products (GB/T17519)
- General rule for preparation of precautionary label for chemicals (GB15258)
- Safety rules for classification, precautionary labeling and precautionary statements of chemicals (GB30000.2-29)

## Section 16. Other information

### History

**Date of issue/Date of revision** : 24 November 2019

**Date of previous issue** : 9/13/2019

**Version** : 6.01

EHS

**Key to abbreviations** :

- ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
- ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
- RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
- UN = United Nations

📌 Indicates information that has changed from previously issued version.

### Notice to reader

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.