

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY INFORMATION

STEEL MATE®Base coat Product Name(s):

Product Code(s): Not available.

Uses: Rust neutralizing and rust resistant metal roof primer.

HYDROSEAL CHANGSHA LLC. Company:

Address: NO.98 LiXiang Road, ChangSha Development, Hunan

Telephone Number: (0731)84067532 Fax Number: (0731)84067531

Emergency Telephone Number: Not available.

Date Issued: May 10, 2016 Date Revised: May 10, 2016

This SDS complies with the OSHA Hazard Communication Standard 29CFR1910.1200 as revised in May

2012 (GHS). It may not meet requirements in other countries.

SECTION 2 HAZARDS IDENTIFICATION

GHS WARNING

Classification: Eye Irritation (Category 2B)

Aquatic Acute Toxicity (Category 2)

Aquatic Chronic Toxicity (Category 2)

GHS Hazard Causes eve irritation

Statements: Toxic to aquatic life with long lasting effects

GHS Prevention: Response:

Precautionary

Wash hands/skin thoroughly Statements:

after handling.

Avoid release to the environment.

If in eyes: Rinse cautiously with water for

several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical

advice/attention. Collect spillage.

Storage: Disposal:

None. Dispose of contents/container in accordance

with local/regional/national/international

regulations.

Hazards Not Otherwise

Classified:

None.

GHS Approximately < 33% of this mixture consists of ingredient(s) of unknown acute toxicity.

Assessment: Approximately < 33% of the mixture consists of ingredient(s) of unknown hazards to the

aquatic environment.

Revision Date: May 10, 2016

SECTION 3 COMPOSITION / INGREDIENTS

Component	CAS Number	EC Number	Concentration
Water	7732-18-5	231-791-2	25.0 - 40.0%
Acrylic polymer	Proprietary		25.0 - 40.0%
Zinc phosphate	7779-90-0	231-944-3	5.0 - 10.0%
Barium sulfate	7727-43-7	231-784-4	5.0 - 10.0%
Kaolin	1332-58-7	310-194-1	1.0- 5.0%
Dipropylene glycol monomethyl ether	34590-94-8	252-104-2	1.0- 5.0%
Manganese	7439-96-5	231-105-1	1.0- 5.0%
Zinc oxide	1314-13-2	215-222-5	1.0- 5.0%

Trade Secret Claims: Specific chemical identity and/or exact percentage (concentration) of components has been withheld as a trade secret.

SECTION 4 FIRST AID MEASURES

First Aid - Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15

minutes. Get medical attention, if irritation develops.

First Aid - Skin: In case of contact, immediately flush skin with plenty of water for at least 15

minutes while removing contaminated clothing and shoes. Get medical attention immediately if irritation or rash develops and/or persists. Wash contaminated

clothing before reuse.

First Aid - Ingestion: If swallowed and feel unwell, call a physician or poison control center. DO NOT

induce vomiting unless directed to do so by a physician or poison control center. If victim is fully conscious, give a cupful of water. Never give anything by mouth to

an unconscious person.

First Aid - Inhalation: If respiratory symptoms or other symptoms of exposure develop, move victim away

from source of exposure and into fresh air. If symptoms persist, seek immediate medical attention. If victim is not breathing, clear airway and immediately begin

artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.

Important Symptoms / Tissue inflammation, nausea.

Effects - Acute and

Delayed:

Advice to Physician: Treat symptomatically.

SECTION 5 FIRE FIGHTING MEASURES

Extinguishing Media: Treat surrounding material. Water spray, dry chemical, carbon dioxide, or

foam is recommended. Carbon dioxide can displace oxygen. Use caution

when applying carbon dioxide in confined spaces.

Specific Hazards: This product is not flammable. This product may give rise to hazardous

vapors in a fire. Vapors/fumes may be irritating, corrosive and/or toxic. Wear full protective clothing and self-contained breathing apparatus.

Protective equipment and

procedures for fire-fighters.

Additional Advice: None.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Spill Procedures: Wipe up spills with an absorbent towel/material and transfer into suitable

containers for recovery or disposal. Finally flush area with water.

Personal Precautions: Wear suitable protective clothing and equipment.

Environmental Precautions: Prevent the material from entering drains or water courses. Do not

discharge directly to a water source. Advise Authorities if spillage has entered watercourse or sewer or has contaminated soil or vegetation.

SECTION 7 HANDLING AND STORAGE

Handling: Wear appropriate personal protection (See Section 8) when handling this material.

The work area should be equipped with a safety shower and eye wash station. If exposed to the liquid, avoid contact with skin and eyes. Wash thoroughly after

handling. Avoid breathing mist or vapor. Use in a well-ventilated area.

Storage: Keep container(s) tightly closed. Use and store this material at temperatures below

30°C (86°F) away from heat, direct sunlight, and hot metal surfaces. Do not freeze.

Keep away from any incompatible materials (see Section 10).

Additional Advice: Store in original container. Store as directed by the manufacturer.

SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

Occupational Exposure

Standards:

Exposure limits are listed below, if they exist.

Water: None. Acrylic polymer: None.

Zinc phosphate: ACGIH TLV: 10 mg/m3 TWA.

Barium sulfate: ACGIH TLV: 10 mg/m3 TWA.

NIOSH REL: 5 mg/m3 TWA (respirable). NIOSH REL: 10 mg/m3 TWA (total). OSHA PEL: 5 mg/m3 TWA (respirable). OSHA PEL: 15 mg/m3 TWA (total).

Kaolin: OSHA (CA) PEL: 2 mg/m3 TWA.

Dipropylene glycol monomethyl ether:

ACGIH TLV: 100 ppm TWA. ACGIH TLV: 150 ppm STEL.

Dow Chemical: 10 mg/m3 TWA (aerosol). OSHA PEL: 100 ppm (600 mg/m3) TWA. OSHA PEL: 150 ppm (900 mg/m3) STEL.

Manganese: NIOSH REL: 1 mg/m3 TWA.

NIOSH REL: 3 mg/m3 STEL. OSHA PEL: 5 mg/m3 (ceiling). OSHA (CA) PEL: 0.2 mg/m3 TWA.

Zinc oxide: ACGIH TLV: 2 mg/m3 TWA (respirable).

ACGIH TLV: 10 mg/m3 STEL (respirable). OSHA PEL: 5 mg/m3 TWA (respirable). OSHA PEL: 15 mg/m3 TWA (total dust).

Engineering Control

Measures:

Engineering methods to prevent or control exposure are preferred. Methods

include process or personnel enclosure, mechanical ventilation (local

exhaust), and control of process conditions.

Respiratory Protection: A NIOSH certified self-contained breathing apparatus or air purifying

respirator may be used under conditions where airborne concentrations are

expected to exceed exposure limits.

SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

Hand Protection: The use of gloves impervious to the specific material handled is advised to

prevent skin contact, possible irritation and skin damage (see glove

manufacturer literature for information on permeability).

Eye Protection: Approved eye protection (safety glasses with side-shields or goggles) to

safeguard against potential eye contact, irritation, or injury is recommended.

Depending on conditions of use, a face shield may be necessary.

Body Protection: Impervious clothing should be worn as needed to prevent skin contact.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Viscous paste
Color: Off-white to gray
Odor: Mild, ether-like
Odor Threshold: Not available.

pH: 7 - 9

Melting Point/Range (°C/°F): 0° C / 32° F (water) Boiling Point/Range (°C/°F): 100° C / 212° F (water) Flash Point (PMCC) (°C/°F): $> 94^{\circ}$ C / 201.2° F (est.)

Evaporation Rate: Not available. Flammability / Explosivity Limits in Air (%): Not available.

Vapor Pressure: 23.8 mmHg (25°C) (water)

Vapor Density (Air = 1):

Relative Density:

Solubility in Water:

Not available.

ca. 1.6 - 1.8

Miscible

Partition Coefficient:

Autoignition Temperature (°C/°F):

Decomposition Temperature (°C/°F):

Viscosity:

Not available.

Not available.

Not available.

Explosive Properties: None.

Oxidizing Properties: None.

Volatile Organic Content (VOC) (g/l): ca. 190 - 220 g/l (as defined by 40CFR51.100)

SECTION 10 STABILITY AND REACTIVITY

Reactivity: Product will not undergo additional reaction.
Stability: Stable under normal storage conditions.

Hazardous Polymerization: Will not occur.

Conditions to Avoid: Contact with incompatible materials, excessive heat (> 100°C).

Incompatibilities: Strong oxidizers, strong acids.

Hazardous Decomposition Oxides of carbon, oxides of sulfur, oxides of phosphorus, oxides of

silicon, metal oxides, acrylic monomers, aliphatic and aromatic

compounds, toxic by-products.

Products:

SECTION 11 TOXICOLOGICAL INFORMATION

If available, toxicity data for the product is given; otherwise component data is listed.

Acute Toxicity: This product is not expected to be appreciably toxic.

(Water) No data.

(Acrylic polymer) No data.

(Zinc phosphate) Oral LD50 (rat) > 5000 mg/kg; Inhalation LC50 (rat) > 5700

mg/m3 (zinc oxide)

(Barium sulfate) Oral LD50 (rat) > 5000 mg/kg; Dermal LD50 (rat) > 2000

mg/kg (similar compound)

(Kaolin) Oral LD50 (rat) > 5000 mg/kg; Dermal LD50 (rat) > 5000 mg/kg (Dipropylene glycol monomethyl ether) Oral LD50 (rat) 5.35 g/kg; Dermal

LD50 (rabbit) 9.5 g/kg

(Manganese) Oral LD50 (rat) > 2000 mg/kg; Inhalation LC50 (rat) > 5.14 mg/l

(4 hr) (no deaths)

(Zinc oxide) Oral LD50 (rat) > 5000 mg/kg; Inhalation LC50 (mouse) > 5-7

mg/L (4 hr)

Skin Corrosion / Irritation: The product may be slightly irritating to the skin.

(Water) No data.

(Acrylic polymer) No data.

(Zinc phosphate) Non-irritating to skin (guinea pig – zinc oxide). (Barium sulfate) Non-irritating to skin (similar compound).

(Kaolin) Non-irritating to skin (rabbit).

(Dipropylene glycol monomethyl ether) Non-irritating to skin (human).

(Manganese) Non-irritating to skin (rabbit).

(Zinc oxide) Slightly irritating to skin (guinea pig / rabbit).

Serious Eye Damage /

Irritation:

The product may be irritating to the eyes.

(Water) No data. (Acrylic polymer) No data.

(Zinc phosphate) Slightly irritating to eye (rabbit). (Barium sulfate) Non-irritating to eye (rabbit).

(Kaolin) No data.

(Dipropylene glycol monomethyl ether) Slightly irritating to eyes (rabbit).

(Manganese) Non-irritating to eye (rabbit). (Zinc oxide) Slightly irritating to eyes (rabbit).

Respiratory or Skin

Sensitization:

The product is not expected to be dermally sensitizing.

(Water) No data.

(Acrylic polymer) No data.

(Zinc phosphate) Not dermally sensitizing (guinea pig – zinc oxide). (Barium sulfate) Not dermally sensitizing (Mouse local lymphnode assay – similar compound).

(Kaolin) No data.

(Dipropylene glycol monomethyl ether) Non-sensitizing to human skin (patch

testing).

(Manganese) Not dermally sensitizing (Mouse local lymphnode assay).

(Zinc oxide) Not dermally sensitizing (human patch testing).

Mutagenicity: This product is not expected to be mutagenic.

(Water) No data.

(Acrylic polymer) No data.

(Zinc phosphate) Not mutagenic (Cytogenetic assay, Ames test, dominant lethal assay and micronucleus assay – zinc sulfate). Not mutagenic (Ames test - zinc oxide). Not mutagenic (mammalian cell gene mutation assay -

zinc dichloride). Not mutagenic (Ames test - zinc bis(dihydrogen

phosphate)).

(Barium sulfate) Not mutagenic (Ames test, mammalian cell gene mutation assay and in vitro mammalian chromosome aberration test - similar

compound). (Kaolin) No data.

SECTION 11 TOXICOLOGICAL INFORMATION

(Dipropylene glycol monomethyl ether) No data.

(Manganese) Not mutagenic (mammalian cell gene mutation assay, Ames

test and micronucleus assay – magnesium chloride)

(Zinc oxide) Not genotoxic in Ames and E. coli testing. Positive results have been observed in mouse lymphoma and Syrian hamster embryo systems. Slight increase in chromosomal aberrations in rat bone marrow was

reported after exposure to zinc oxide by inhalation.

Carcinogenicity: This product is not expected to be carcinogenic.

(Water) No data.

(Acrylic polymer) No data.

(Zinc phosphate) No carcinogenic potential was observed in a study of orally-

dosed mice up to 22 g/l over one year (zinc sulfate).

(Barium sulfate) No evidence of carcinogenic activity in rats dosed up to 2500 ppm for 6 week study (similar compound). This equates to an NOAEL of

greater than 102 mg/kg/day.

(Kaolin) Not a human carcinogen (ACGIH). (Dipropylene glycol monomethyl ether) No data.

(Manganese) Manganese supressed nickel-induced sarcoma formation in

(Zinc oxide) Inadequate evidence in humans and animals.

Reproductive /

This product is not expected to be developmentally harmful. (Water) No data.

Developmental Toxicity:

(Acrylic polymer) No data.

(Zinc phosphate) Dietary zinc supplementation at 4,000 ppm reduced male fertility in rats (zinc sulfate). In a study of orally-dosed rats, there were no adverse effects on parents or fetuses (up to 42.5 mg/kg zinc sulfate).

(Barium sulfate) No data.

(Kaolin) No data.

(Dipropylene glycol monomethyl ether) No data.

(Manganese) No data.

(Zinc oxide) In diets of of 0.5% in rats there was no retardation of growth; at 1% retarded growth was observed. In pregnant rats, dietary zinc oxide at

4000 ppm zinc causes resorption and death of fetuses.

Chronic/Subchronic Toxicity: Specific Target Organ/Systemic Toxicity -Single Exposure:

(Water) No data.

(Acrylic polymer) No data. (Zinc phosphate) No data. (Barium sulfate) No data.

(Kaolin) No data.

(Dipropylene glycol monomethyl ether) Observations in dogs have shown

central nervous system and cardiac system depression.

(Manganese) No data. (Zinc oxide) No data.

Chronic/Subchronic Toxicity: Specific Target (Water) No data.

(Acrylic polymer) No data. Organ/Systemic Toxicity -(Zinc phosphate) No data. (Barium sulfate) No data. Repeated Exposure:

(Kaolin) No data.

(Dipropylene glycol monomethyl ether) Inhalation studies of animals (rabbits and monkeys) at concentration up to 1500 ppm for 184 days have shown central nervous system depression and slight liver injury. Slight kidney changes were also observed in other studies but only at the highest levels

of exposure. (Manganese) No data. (Zinc oxide) No data.

Aspiration Hazard: This product does not pose an appreciable aspiration hazard.

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SECTION 11 TOXICOLOGICAL INFORMATION

Additional Information: None.

SECTION 12 ECOLOGICAL INFORMATION

If available, ecological data for the product is given; otherwise component data is listed.

Acute Ecotoxicity: This product may be toxic to aquatic species.

(Water) No data.

(Acrylic polymer) LC50 (Rainbow trout) > 100 mg/l/96 hr; EC50 (Daphnia

magna) > 100 mg/l/48 hr (similar compounds).

(Zinc phosphate) LC50 (Rainbow trout) 0.169 mg/l/96 hr (zinc chloride); LC50 (fathead minnow) 0.33 – 0.78 mg/l/96 hr (zinc sulfate); EC50

(Daphnia magna) 1.08 - 2.34 mg/l/48 hr.

(Barium sulfate) LC50 (Zebra fish) > 152 mg/l/96 hr (similar compound).

EC50 (Daphnia magna) 32 mg/l/48 hr. (Kaolin) LC50 (Daphnia pulex) > 1.1 g/l/48 hr.

(Dipropylene glycol monomethyl ether) LC50 (Guppy) > 1000 mg/l/96 hr;

LC50 (Daphnia magna) 1919 mg/l/48 hr.

(Manganese) EC50 (Daphnia magna) > 100 mg/l/48 hr.

(Zinc oxide) EC50 (tadpole) 3.2 mg/l/48 hr; LD0 (carp, forcefed) 228-262

mg/l/52 hr.

Mobility: (Water) No data.

(Acrylic polymer) No data. (Zinc phosphate) No data. (Barium sulfate) No data.

(Kaolin) No data.

(Dipropylene glycol monomethyl ether) Expected to be highly mobile in soil.

(Manganese) No data. (Zinc oxide) No data.

Persistence/Degradability: (Water) No data.

(Acrylic polymer) Not biodegradable.

(Zinc phosphate) No data. (Barium sulfate) No data.

(Kaolin) No data.

(Dipropylene glycol monomethyl ether) Biodegradable (75% in 28 days).

(Manganese) Inherently non-degradable.

(Zinc oxide) No data.

Bioaccumulation: (Water) No data.

(Acrylic polymer) No data. (Zinc phosphate) No data. (Barium sulfate) No data.

(Kaolin) No data.

(Dipropylene glycol monomethyl ether) Not bioaccumulative (BCF < 100 and

very soluble). (Manganese) No data. (Zinc oxide) No data.

Other adverse effects: None.

SECTION 13 DISPOSAL CONSIDERATION

Environmental precautions: Prevent the material from entering drains or water courses. Do not

discharge directly to a water source. Advise Authorities if spillage has entered watercourse or sewer or has contaminated soil or vegetation.

Product Disposal: Dispose in accordance with all local, state (provincial), and federal

regulations. Under RCRA, it is the responsibility of the product's user to

SECTION 13 DISPOSAL CONSIDERATION

determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. This is because the product uses, transformations, mixtures, processes, etc. may render the resulting materials hazardous.

Container Disposal: Do not remove label until container is thoroughly cleaned. Empty

containers may contain hazardous residues. This material and its

container must be disposed of in a safe way.

SECTION 14 TRANSPORT INFORMATION

DOT (US):

Proper Shipping Name: Not regulated

UN Number: None.

Class: None.

Packaging Group: None.

Reportable Quantity: None.

Marine Pollutant: None.

IATA:

Proper Shipping Name: Environmentally hazardous substances, liquid, n.o.s. (Zinc

phosphate)

UN Number: UN3082

Class: 9
Packing Group: III

IMDG:

Proper Shipping Name: Environmentally hazardous substances, liquid, n.o.s. (Zinc

phosphate)

UN Number: UN3082

Class: 9
Packing Group: III

Marine Pollutant: This product does not contain a listed marine pollutant; however, this

product will meet the criteria of a marine pollutant under the IMDG

Code.

Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations.

SECTION 15 REGULATORY INFORMATION

listing requirements of the U.S. Toxic Substances Control Act (TSCA)

Chemical Substance Inventory.

Canadian Domestic Substance

List:

Act:

One or more component(s) of this product are not listed on the Canadian

Domestic Substance List. Limited quantities may be permitted.

EU REACh: One or more component(s) of this product have not been pre-listed or

registered under REACh. Limited quantities may be permitted.

TSCA Sec.12(b) Export

Notification:

This product does not contain a chemical at or above de minimis

concentrations which requires reporting.

SECTION 15 REGULATORY INFORMATION

Canadian WHMIS Classification:

D.2.B

This product has been classified in accordance with the hazard criteria of the CPR and the SDS contains all of the information required by the

CPR.

Massachusetts Right-To-Know:

This product contains materials subject to disclosure under the

Massachusetts' Right-To-Know Law:

Barium sulfateKaolin (as dust)

- Dipropylene glycol monomethyl ether

- Manganese

- Zinc oxide (as fume)

New Jersey Right-To-Know:

This product contains materials subject to disclosure under the New

Jersey's Right-To-Know Law:

- Zinc phosphate (3012) (as zinc compound)

- Barium sulfate (4000)

- Kaolin (4016)

- Dipropylene glycol monomethyl ether (0804)

- Manganese (1155)- Zinc oxide (2037)

Pennsylvania Right-To-Know:

This product contains materials subject to disclosure under the

Pennsylvania's Right-To-Know Law:
- Zinc phosphate (as zinc compound)

- Barium sulfate

- Kaolin

- Dipropylene glycol monomethyl ether

ManganeseZinc oxide

California Proposition 65:

This product contains materials which the State of California has found

to cause cancer, birth defects or other reproductive harm:

- Sodium dichromate (< 0.04%)

Immediate (acute) hazard

SARA TITLE III-Section 311/312 Categorization (40 CFR 370):

SARA TITLE III-Section 313

(40 CFR 372):

This product contains materials which are listed in Section 313 at

or above de minimis concentrations:
- Zinc phosphate (as zinc compounds)

- Manganese (as manganese compounds)

- Zinc oxide (as zinc compounds)

CERCLA Hazardous Substance (40 CFR 302) This product contains materials subject to reporting under CERCLA and

Section 304 of EPCRA:

Zinc phosphate (as zinc compounds)Manganese (as manganese compounds)

- Zinc oxide (as zinc compounds)

Water Hazard Class (WGK):

This product is water-endangering (WGK=2).

Other Chemical Inventories: Australia

Australia (AICS): One or more component(s) are not listed.

China (IECSC):

Japan (ENCS):

One or more component(s) are not listed.

Philippines (PICCS): One or more component(s) are not listed.

SECTION 16 OTHER INFORMATION

NFPA Rating - HEALTH: 1
NFPA Rating - FIRE: 1
NFPA Rating - REACTIVITY: 0

NFPA Rating - SPECIAL: NONE

SDS Date Issued: May 10, 2016

SDS Current Version: 1.0 Version Date: May 10, 2016

SDS Revision History: v1.0 Initial version.

Abbreviations: GHS: Globally Harmonized System of Classification and Labeling of

Chemicals

CAS#: Chemical Abstract Services Number

ACGIH: American Conference of Governmental Industrial Hygienists

OSHA: Occupational Safety and Health Administration

NFPA: National Fire Protection Association DOT: US Department of Transportation

RCRA: US Resource Conservation and Recovery Act

TLV: Threshold Limit Value
TWA: Time-Weighted Average
PEL: Permissible Exposure Limit
STEL: Short Term Exposure Limit

WEEL: Workplace Environmental Exposure Levels AIHA: American Industrial Hygiene Association

NTP: National Toxicology Program

IARC: International Agency for Research on Cancer

R: Risk S: Safety

LD50: Lethal Dose 50%

LC50: Lethal Concentration 50%
EC50: Effective Concentration 50%
BCF Bioconcentration Factor
BOD: Biological Oxygen Demand

Koc: Soil Organic Carbon Partition Coefficient.

Tlm: Median Tolerance Limit

Key References: United States National Library of Medicine's TOXNET

Patty's Toxicology, 5th Edition

European Commission's Institute for Health and Consumer Protection

American Conference of Governmental Industrial Hygienists

International Agency for Research on Cancer United States National Toxicology Program

United States Occupational Safety and Health Administration

United States Department of Transportation

Supplier Material Safety Data Sheets

Disclaimer: The data contained herein is based on information that the company

believes to be reliable, but no expressed or implied warranty is made with regard to the accuracy of such data or its suitability for a given situation. Such data relates only to the specific product described and not to such products in combination with any other product and no agent of the company is authorized to vary any of such data. The company and its agents disclaim all liability for any action taken or

foregone on reliance upon such data.

Prepared by: ChemOne Compliance, LLC