

SAFETY DATA SHEET

1. Identification

Product identifier Micronized Copper Azole (MCA) Treated Wood

Other means of identification

SDS number 289-TIM-E

Recommended use Preservative Treated Wood for various interior and exterior applications.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Customers of Timber Specialties Limited

Company name

Address

Telephone number

E-mail

Contact person

Emergency phone number

2. Hazard(s) identification

Physical hazards Combustible dusts Category 1

Health hazards Carcinogenicity (inhalation) Category 1A

Environmental hazards Not classified.

Label elements

Hazard symbol 

Signal word Danger

Hazard statement May cause cancer by inhalation. May form combustible dust concentrations in air.

Precautionary statement

Prevention Obtain special instructions before use (see Section 16). Do not handle until all safety precautions have been read and understood. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Prevent dust accumulation to minimize explosion hazard. Observe good industrial hygiene practices.

Response If exposed or concerned: Get medical advice/attention. In case of fire: Use alcohol-resistant foam, carbon dioxide, dry powder or water fog for extinction.

Disposal Dispose in accordance with local/regional/national/international regulations.

Other hazards None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Wood/Wood dust	N/A	90 - 98
Copper Carbonate	12069-69-1	< 1
Tebuconazole	107534-96-3	< 0.5

Composition comments Depending on the additives applied to the treating solution, this wood may also contain <1% of a wax emulsion and/or <1% of a colorant. None of these ingredients are classified as carcinogens. Components not listed are either non-hazardous or are below reportable limits.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist. Some species may cause allergic respiratory reactions with asthma-like symptoms in sensitized individuals.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists. Prolonged contact with treated wood and/or treated wood dust, especially when freshly treated at the plant, may cause irritation to the skin. Abrasive handling or rubbing of the treated wood may increase skin irritation. Some wood species, regardless of treatment, may cause dermatitis or allergic skin reactions in sensitized individuals. In case of rashes, wounds or other skin disorders: Seek medical attention and bring along these instructions.
Eye contact	Do not rub eye. Immediately flush eye(s) with plenty of water. Remove any contact lenses and open eyelids wide apart. If eye irritation persists, get medical attention.
Ingestion	Rinse mouth thoroughly if dust is ingested. Get medical attention if any discomfort continues.
Most important symptoms/ effects, acute and delayed	Wood dust: May cause nasal dryness, irritation and mucostasis. Coughing, wheezing, sneezing, sinusitis and prolonged colds have also been reported. Depending on wood species may cause respiratory sensitization and/or irritation. Mechanical irritation of skin, eyes and respiratory system.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	If exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Alcohol-resistant foam, carbon dioxide, dry powder or water fog. Apply extinguishing media carefully to avoid creating airborne dust.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Explosion hazard: Depending on moisture content, and more importantly, particle diameter and airborne concentration, wood dust in a contained area may explode in the presence of an ignition source. Wood dust may similarly deflagrate (combustion without detonation like an explosion) if ignited in an open or loosely contained area. An airborne concentration of 40 grams (40,000 mg) of dust per cubic meter of air is often used as the LEL for wood dusts. Reference NFPA Standards- 654 and 664 for guidance.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire-fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	May form combustible dust concentrations in air.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Use only non-sparking tools. Avoid generation and spreading of dust. Avoid inhalation of dust. Provide adequate ventilation. Wear appropriate personal protective equipment (See Section 8).
Methods and materials for containment and cleaning up	Sweep or vacuum up spillage and collect in suitable container for disposal. If not possible, gently moisten dust before it is collected with shovel, broom or the like. Flush area with water. Clean surface thoroughly to remove residual contamination. For waste disposal, see Section 13.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Read SDS before use. Avoid prolonged or repeated breathing of dust. Avoid prolonged or repeated contact with skin. Do not smoke. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Wear appropriate personal protective equipment (See Section 8). Avoid release to the environment. Do not burn preserved wood. Do not use preserved wood as mulch.
Conditions for safe storage, including any incompatibilities	Keep away from heat, spark, open flames and other sources of ignition. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Wood/Wood dust (CAS N/A)	TWA	1 mg/m ³	Inhalable fraction.
Copper Carbonate (CAS 12069-69-1)	TWA	1 mg/m ³ 0.2 mg/m ³	Dust and mist. Fume.

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value	Form
Wood/Wood dust (CAS N/A)	TWA	0.5 mg/m ³	Total dust.

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value	Form
Wood/ Wood dust (CAS N/A)	TWA	1 mg/m ³	Dust.

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act) Components

Components	Type	Value	Form
Copper Carbonate (CAS 12069-69-1)	TWA	1 mg/m ³ 0.2 mg/m ³	Dust and mist. Fume.

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value	Form
Wood/Wood dust (CAS N/A)	STEL TWA	10 mg/m ³ 1 mg/m ³	Dust. Dust.

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value	Form
Wood/Wood dust (CAS N/A)	TWA	2.5 mg/m ³	Dust.

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields or safety goggles when sawing or cutting.

Skin protection

Hand protection

Leather gloves provide sufficient hand protection. Chemical resistant gloves may be necessary for handling freshly treated wood.

Other

Wear long sleeve shirt, pants, and closed-toed shoes when handling wood.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment. Wear dust mask when sawing or sanding wood. If exposure limits are exceeded or if irritation is experienced, a NIOSH-approved positive pressure self-contained breathing apparatus should be worn.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Observe any medical surveillance requirements. Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, chewing gum, using tobacco, or using the toilet.

9. Physical and Chemical Properties

Appearance

Physical state

Solid.

Form

Solid. Chips. Dust.

Color

Varies.

Odor

Wood odor.

Odor threshold

Not available.

pH

Not applicable.

Melting point/freezing point	Not applicable.
Initial boiling point and boiling range	Not applicable.
Flash Point	Not available.
Evaporation rate	Not applicable.
Flammability (solid, gas)	Combustible dust.
Upper/lower flammability or explosive limits	
Flammability limit – lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapor pressure	Not applicable.
Vapor density	Not applicable.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Highly insoluble.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not applicable.

10. Stability and reactivity

Reactivity	The product is non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid contact with incompatible materials. Minimize dust generation and accumulation.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Combustion products may yield irritating and toxic vapors/fumes of organic materials, and oxides of carbon and nitrogen.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Wood dust, treated or untreated, is irritating to the nose, throat and lungs. Prolonged or repeated inhalation of wood dusts may cause respiratory irritation, recurrent bronchitis and prolonged colds. Some species may cause allergic respiratory reactions with asthma-like symptoms in sensitized individuals. Prolonged exposure to wood dusts by inhalation has been reported to be associated with nasal and paranasal cancer.
Skin contact	Handling may cause splinters. Prolonged contact with treated wood and/or treated wood dust, especially when freshly treated at the plant, may cause irritation to the skin. Abrasive handling or rubbing of the treated wood may increase skin irritation. Some wood species, regardless of treatment, may cause dermatitis or allergic skin reactions in sensitized individuals.
Eye contact	Dust may irritate the eyes.
Ingestion	Not likely, due to the form of the product. However, ingestion of high concentrations of dusts generated during working operations may cause nausea and vomiting. Certain species of wood and their dusts may contain natural toxins, which can have adverse effects in humans.
Symptoms related to the physical, chemical and toxicological characteristics	Wood dust: May cause nasal dryness, irritation and mucostasis. Coughing, wheezing, sneezing, sinusitis and prolonged colds have also been reported. Depending on wood species may cause respiratory sensitization and/or irritation. Symptoms can include irritation, redness, scratching of the cornea, and tearing. May cause eczema-like skin disorders (dermatitis). Airborne treated or untreated wood dust may cause nose, throat, or lung irritation and other respiratory effects.

Information on toxicological effects

Acute toxicity	Not expected to be acutely toxic.
Skin corrosion/irritation	Dust may irritate skin.
Serious eye damage/eye irritation	Dust may irritate the eyes.

Respiratory or skin sensitization

ACGIH Sensitization

Wood/Wood dust (CAS N/A) Dermal sensitization. Respiratory sensitization.

Canada - Manitoba OELs Hazard: Dermal sensitization

Wood/Wood dust (CAS N/A) Dermal sensitization

Canada - Manitoba OELs Hazard: Respiratory sensitization

Wood/Wood dust (CAS N/A) Respiratory sensitization

Canada - Saskatchewan OELs Hazard Data: Sensitizer

Wood/Wood dust (CAS N/A) Sensitizer

Respiratory sensitization

Exposure to wood dusts can result in hypersensitivity.

Skin sensitization

Exposure to wood dust can result in the development of contact dermatitis. The primary irritant dermatitis resulting from skin contact with wood dusts consist of erythema, blistering, and sometimes erosion and secondary infections occur.

Germ cell mutagenicity

No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity

May cause cancer by inhalation. This classification is based on an increased incidence of nasal and paranasal cancers in people exposed to wood dusts.

ACGIH Carcinogens

Wood/Wood dust (CAS N/A) A1 Confirmed human carcinogen. A2 Suspected human carcinogen.

Canada - Manitoba OELs: carcinogenicity

Wood/Wood dust (CAS N/A) Confirmed human carcinogen. Suspected human carcinogen.

IARC Monographs. Overall Evaluation of Carcinogenicity

Wood/Wood dust (CAS N/A) 1 Carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens

Wood/Wood dust (CAS N/A) Known To Be Human Carcinogen.

Reproductive toxicity

This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure

Not classified.

Specific target organ toxicity - repeated exposure

Not classified.

Aspiration hazard

Not likely, due to the form of the product.

Chronic effects

Chronic exposure to wood dusts can result in pneumonitis, and coughing, wheezing, fever and the other signs and symptoms associated with chronic bronchitis. Individuals with pre-existing disease in or a history of ailments involving the skin, kidney, liver, respiratory tract, eyes, or nervous system are at a greater than normal risk of developing adverse effects from woodworking operations with this product.

12. Ecological information

Ecotoxicity

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components

Species

Test Results

Copper Carbonate (CAS 12069-69-1)

Aquatic

Crustacea EC50

Balanus balanoides

350 - 480 µg/l, 48 hours

Persistence and degradability

No data is available on the degradability of this product.

Bioaccumulative potential

No data available on bioaccumulation.

Mobility in soil

This product is insoluble in water.

Other adverse effects

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions

Dispose of contents in accordance with municipal, provincial, and federal regulations. DO NOT BURN! Ash may be toxic and a hazardous waste; combustion vapors may be toxic.

Local disposal regulations

Dispose in accordance with provincial requirements.

Hazardous waste code

The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products	Dispose in accordance with local regulations. This material must be disposed of in a safe manner (see: Disposal instructions).
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14. Transport information

TDG	Not regulated as dangerous goods.
IATA	Not regulated as dangerous goods.
IMDG	Not regulated as dangerous goods.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

15. Regulatory information

Canadian regulations	This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.
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Controlled Drugs and Substances Act

Not regulated.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Ontario. Toxic Substances. Toxic Reduction Act, 2009. Regulation 455/09 (July 1, 2011)

Copper Carbonate (CAS 12069-69-1)

Precursor Control Regulations

Not regulated.

International regulations

Stockholm Convention	Not applicable.
Rotterdam Convention	Not applicable.
Kyoto protocol	Not applicable.
Montreal Protocol	Not applicable.
Basel Convention	Not applicable.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

Issue date	04-28-2017
Revision dates	01-30-2019
Version No.	03

Special instructions

If you expect to generate wood dust, read Sections 4, 7, 8, and 11.

Disclaimer

Supplier cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name ACQ Pressure Treated Lumber
Synonym(s) ACQ Treated * ACQ Treated Wood * ACQ Type D
Product use Treated Wood Products
Chemical description Fungicide Treated Lumber. Water repellent products may contain hydrocarbon wax.
Product List See Product List found in Section 16
Chemical name Alkaline Copper and Quaternary Ammonium Compounds Type D
Manufacturer information Georgia-Pacific Treated Lumber LLC
 133 Peachtree Street, NE
 Atlanta, GA 3030
 MSDS Request 404.652.5119
 Technical Information 888.427.4778
 Chemtrec - Emergency 800.424.9300

2. Hazards Identification

Emergency overview Sawing, sanding or machining wood or wood products can generate dust. Wood dust may ignite or form explosive mixture with air in the presence of an ignition source. Dust may be irritating to eyes, skin and respiratory system.
Target organs Eyes, skin and respiratory system
Potential health effects
Eyes Dust or splinters may cause irritation or injury to the eyes.
Skin Contact with skin may cause irritation.
Inhalation Dusts of this product may cause irritation to the nose, throat, or respiratory tract.
Ingestion Not applicable under normal conditions of use. May result in obstruction or temporary irritation of the digestive tract.

3. Composition / Information on Ingredients

Components	CAS #	Percent/Wt
WOOD/WOOD DUST	Not Assigned	60 - 100
Monoethanolamine	141-43-5	1 - 5
Copper complex expressed as Copper oxides	Proprietary	0.5 - 1.5
Didecyl dimethyl ammonium carbonate / bicarbonate	Proprietary	0.1 - 1
Composition comments	Some lumber products may be sprayed with sap stain control coatings.	

4. First Aid Measures

First aid procedures
Eye contact In case of contact, immediately flush eyes with large amounts of water, continuing to flush for 15 minutes. Do not rub the eyes. Get medical attention immediately.
Skin contact For skin contact, wash immediately with soap and water. Get medical attention if irritation develops or persists.
Inhalation Remove from area of exposure. If the affected person is not breathing, apply artificial respiration. If persistent irritation, severe coughing or breathing difficulty occurs, seek medical attention.
Ingestion If wood or wood dust is swallowed, get immediate medical attention or advice -- Do not induce vomiting.

5. Fire Fighting Measures

General fire hazards Wood is combustible when exposed to heat or flame. Wood dusts may form explosive mixtures with air in the presence of an ignition source. An airborne dust concentration of 40 g/m³ of air is often used as the lower explosion limit (LEL) for wood dust. Avoid prolonged breathing of wood dust or decomposition products.

Flammable properties	Not available
Extinguishing media	
Suitable extinguishing media	Use methods for the surrounding fire.
Protection of firefighters	
Protective equipment and precautions for firefighters	Firefighters should wear protective clothing including self-contained breathing apparatus (SCBA) to avoid breathing combustion products. Partially burned dust is especially hazardous if dispersed into the air. Wet down dust to reduce likelihood of ignition or dispersion. Remove burned or wet dust to open, secure area after fire is extinguished.
Explosion data	
Sensitivity to static discharge	Not available
Sensitivity to mechanical impact	Not available
Hazardous combustion products	Combustion products may yield irritating and toxic fumes or gases including organic chloride, aldehydes, amines, hydrogen chloride, ammonia, copper compounds, oxygen, boric oxide, oxides of carbon or nitrogen.

6. Accidental Release Measures

Personal precautions	Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. Avoid inhalation of dust during clean up.
Methods for cleaning up	Vacuum or wet sweep small wood pieces and dust; place in appropriate container for disposal. Gather larger pieces by an appropriate method. Reduce airborne dust by use of wet methods and prevent scattering by moistening with water.

7. Handling and Storage

Handling	Caution. Do not burn treated wood. Do not use pressure treated wood as mulch. Use only with adequate ventilation. Use personal protective equipment as required. Avoid contact with skin, eyes and clothing. Wash hands thoroughly after handling. Dust can form an explosive mixture in air. Keep formation of airborne dusts to a minimum. Keep away from heat and sources of ignition.
Storage	Store flat, supported and protected from direct contact with the ground. Keep in a well-ventilated place away from incompatible materials. Store in a cool dry place. Keep away from heat and sources of ignition.

8. Exposure Controls / Personal Protection

WOOD/WOOD DUST (CAS # Not Assigned)

	TWA	STEL	Ceiling
ACGIH	1 mg/m3 TWA (Inhalable)	Not established	Not established
OSHA	5 mg/m3 TWA (Total Dust) (Vacated)	10 mg/m3 (Vacated)	Not established

Monoethanolamine (CAS # 141-43-5)

	TWA	STEL	Ceiling
ACGIH	3 ppm TWA	6 ppm STEL	Not established
OSHA	3 ppm TWA; 6 mg/m3 TWA	Not established	Not established

Copper complex expressed as Copper oxides (CAS # Proprietary)

	TWA	STEL	Ceiling
ACGIH	0.2 mg/m3 TWA (fume); 1 mg/m3 TWA (dust and mist, as Cu)	Not established	Not established
OSHA	0.1 mg/m3 TWA (fume); 1 mg/m3 TWA (dust and mist)	Not established	Not established

Didecyl dimethyl ammonium carbonate / bicarbonate (CAS # Proprietary)

	TWA	STEL	Ceiling
ACGIH	Not established	Not established	Not established
OSHA	Not established	Not established	Not established

Exposure guidelines	Georgia-Pacific Wood Products LLC voluntarily elects to adhere to exposure limits contained in OSHA's 1989 Air Contaminants Standard although certain limits were vacated in 1992. The present OSHA exposure limits governing wood dust is 15 mg/m3 (Total Dust) and 5 mg/m3 (Respirable Fraction).
Engineering controls	Due to the explosive potential of dust when suspended in air, precautions should be taken when sawing, sanding, or machining wood or wood products to prevent sparks or other ignition sources in ventilation equipment. Local exhaust ventilation is recommended when sawing, sanding, or machining this product. General dilution ventilation is recommended in processing and storage areas.
Personal protective equipment	
Eye / face protection	Safety glasses or goggles are recommended when using this product. Ensure compliance with OSHA's PPE standard (29 CFR 1910.132 and .133) for eye and face protection.
Skin protection	Impervious protective clothing and gloves recommended to prevent drying or irritation of skin. Ensure compliance with OSHA's PPE standards (29 CFR 1910.132 (general) and 138 (hand protection)). Safety shower/eye wash fountain is recommended in the workplace area (29 CFR 1910.151 (c)). Ensure compliance with OSHA's PPE standard 29 CFR 1910.132 (general) and .138 (hand protection).
Respiratory protection	A NIOSH approved dust mask or filtering facepiece is recommended in poorly ventilated areas or when permissible exposure limits may be exceeded. Respirators should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134) and ANSI's standard for respiratory protection (Z88.2).

9. Physical & Chemical Properties

Appearance	Rigid board
Color	Various
Physical State	Solid wood
Odor	Resinous wood
Odor threshold	Not available
pH	Not applicable
Freezing point	Not applicable
Boiling point	Not applicable
Flash point	Not applicable

Evaporation rate	Not applicable
Flammability	Combustible
Flammability limits in air, upper, % by volume	40 g/cm ³ Wood dust
Flammability limits in air, lower, % by volume	Not applicable
Vapor pressure	Not applicable
Vapor density	Not applicable
Specific gravity	<1.0
Octanol/H ₂ O coeff	Not applicable
Solubility (water)	Insoluble
Auto-ignition temperature	400 - 500 °F (204.4 - 260 °C) for Wood

10. Chemical Stability & Reactivity Information

Chemical stability	This is a stable material.
Conditions to avoid	Contact with incompatible materials. High temperatures. Heat, flames and sparks. Dust may form explosive mixture in air.
Conditions of Reactivity	None known.
Incompatible materials	Strong acids, alkalis, oxidizing agents and drying oils.
Hazardous decomposition products	Combustion products may yield irritating and toxic fumes or gases including organic chloride, aldehydes, amines, hydrogen chloride, ammonia, copper compounds, oxygen, boric oxide, oxides of carbon or nitrogen.
Possibility of hazardous reactions	Will not occur.

11. Toxicological Information

Toxicological information WOOD DUST. Wood dust may cause dryness, irritation, coughing or sinusitis. IARC and NTP classify wood dust as a carcinogen. This classification is based on the increased occurrence of adenocarcinomas of the nasal cavities and paranasal sinuses associated with exposure to wood dust. The evaluation noted insufficient evidence to associate cancer of the oropharynx, hypopharynx, lung, lymphatic and hematopoietic systems, stomach, colon or rectum with exposure to wood dust. MONOETHANOLAMINE. Inhalation of high concentrations of monoethanolamine has been reported to cause pulmonary, liver, kidney and skin damage in experimental animals. Monoethanolamine may be corrosive to the eyes, skin, respiratory system and gastrointestinal tract, and may cause permanent damage to the eyes. Monoethanolamine may be absorbed through the skin in harmful amounts and may cause allergic skin reactions. Monoethanolamine exposures may cause damage to the nervous system, lungs, liver or kidneys. COPPER COMPLEX EXPRESSED AS COPPER OXIDE. Copper complex expressed as copper oxide in this product contains copper salts which, upon ingestion of high oral doses, can cause gastrointestinal disturbances, anemia, and secondary liver and kidney damage.	
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Toxicological information (Ingredients)

Monoethanolamine (CAS # 141-43-5)

Toxicology Data - Selected LD50s and LC50s

Oral LD50 Rat 1720 mg/kg; Dermal LD50 Rabbit 1 mL/kg;
Dermal LD50 Rabbit 1025 mg/kg

Sensitization Not expected to be hazardous by OSHA/WHMIS criteria.

Carcinogenicity

WOOD/WOOD DUST (CAS # Not Assigned)

IARC - Group 1 (Carcinogenic to Humans)

NTP (National Toxicology Program) - Report on Carcinogens - Known

Human Carcinogens

U.S. - OSHA - Hazard Communication Carcinogens

Monograph 62 [1995]

Known Human Carcinogen

Present

Mutagenicity Not expected to be hazardous by OSHA/WHMIS criteria.

Reproductive effects Not expected to be hazardous by OSHA/WHMIS criteria.

Teratogenicity Not expected to be hazardous by OSHA/WHMIS criteria.

Synergistic materials Not expected to be hazardous by OSHA/WHMIS criteria.

12. Ecological Information

Ecotoxicity	This product is not expected to leach harmful amounts of preservative into the environment. The wood preservative contains fungicides and insecticides, which, when released into the environment, may adversely affect plants and wildlife.	
Copper complex expressed as Copper oxides (CAS # Proprietary)		
Ecotoxicity - Freshwater Algae Data		72 Hr EC50 <i>Pseudokirchneriella subcapitata</i> : 0.0426 - 0.0535 mg/L [static]; 96 Hr EC50 <i>Pseudokirchneriella subcapitata</i> : 0.031 - 0.054 mg/L [static]
Ecotoxicity - Freshwater Fish Species Data		96 Hr LC50 <i>Pimephales promelas</i> : 0.0068 - 0.0156 mg/L; 96 Hr LC50 <i>Pimephales promelas</i> : <0.3 mg/L [static]; 96 Hr LC50 <i>Pimephales promelas</i> : 0.2 mg/L [flow-through]; 96 Hr LC50 <i>Oncorhynchus mykiss</i> : 0.052 mg/L [flow-through]; 96 Hr LC50 <i>Lepomis macrochirus</i> : 1.25 mg/L [static]; 96 Hr LC50 <i>Cyprinus carpio</i> : 0.3 mg/L [semi-static]; 96 Hr LC50 <i>Cyprinus carpio</i> : 0.8 mg/L [static]; 96 Hr LC50 <i>Poecilia reticulata</i> : 0.112 mg/L [flow-through]
Monoethanolamine (CAS # 141-43-5)		
Ecotoxicity - Freshwater Algae Data		72 Hr EC50 <i>Desmodesmus subspicatus</i> : 15 mg/L
Ecotoxicity - Freshwater Fish Species Data		96 Hr LC50 <i>Pimephales promelas</i> : 227 mg/L [flow-through]; 96 Hr LC50 <i>Brachydanio rerio</i> : 3684 mg/L [static]; 96 Hr LC50 <i>Lepomis macrochirus</i> : 300-1000 mg/L [static]; 96 Hr LC50 <i>Oncorhynchus mykiss</i> : 114-196 mg/L [static]; 96 Hr LC50 <i>Oncorhynchus mykiss</i> : >200 mg/L [flow-through]
Environmental effects	Pressure treated wood should not be used where it may come in direct or indirect contact with drinking water. Pressure treated wood should not be used in circumstances where preservative may become a component of food, animal feed or beehives.	

13. Disposal Considerations

Disposal instructions	Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Dispose of material according to Local, State, Federal, and Provincial Environmental Regulations.
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14. Transport Information

General	This product is not regulated as a hazardous material by the United States (DOT) or Canadian (TDG) transportation regulations.
Department of Transportation (DOT) Requirements	
This product is not regulated as a hazardous material by the United States (DOT) transportation regulations.	
Canadian Transportation of Dangerous Goods (TDG) Requirements	
Not regulated as dangerous goods.	

15. Regulatory Information

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - No Delayed Hazard - No Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
Section 302 extremely hazardous substance	No
Section 311 hazardous chemical	No
Section 313 hazardous chemical	Yes

US federal regulations

ACQ Pressure Treated Wood Products contains a quaternary ammonium compound, an EPA registered product. This product is pressure treated with a FIFRA registered wood preservative.

California Proposition 65. WARNING: This product may generate wood dust, a chemical known to the state of California to cause cancer.

Copper complex expressed as Copper oxides (CAS # Proprietary)

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

5000 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers); 2270 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers)
1.0 % de minimis concentration

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

Canadian regulations

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

Canada - WHMIS - Ingredient Disclosure List

Copper complex expressed as	Proprietary	1 %
Copper oxides		
Monoethanolamine	141-43-5	1 %

Inventory status

Country(s) or region	Inventory name	Compliant w/inventory requirements (yes/no)
Canada	Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

16. Other Information**Product list**

Pressure Treated Lumber

Premium Southern Gold® Pressure Treated Lumber

Premium Southern Gold® Plus Water-Repellent Pressure Treated Lumber

HMIS® ratings

Health: 1*
Flammability: 1
Physical hazard: 0
Personal protection: X

NFPA ratings

Health: 1
Flammability: 1
Instability: 0

Other information**WOOD PRODUCTS****CAUTION!**

SAWING, SANDING OR MACHINING WOOD PRODUCTS CAN PRODUCE WOOD DUST, WHICH CAN CAUSE A FLAMMABLE OR EXPLOSIVE HAZARD.

WOOD DUST MAY CAUSE LUNG, UPPER RESPIRATORY TRACT, EYE OR SKIN IRRITATION. SOME WOOD SPECIES MAY CAUSE DERMATITIS AND/OR RESPIRATORY ALLERGIC EFFECTS. EXPOSURE TO WOOD DUST MAY CAUSE CANCER.

PRECAUTIONS

Avoid dust contact with ignition source. Avoid frequent or prolonged inhalation of wood dust. Protect eyes from flying particles. Avoid dust contact with skin and wash exposed areas.

FIRST AID

If inhaled, remove to fresh air. In case of contact, flush eyes and skin with water. If irritation persists, call a physician.

HANDLING AND STORAGE

Avoid frequent or prolonged inhalation of wood dust. Protect eyes from flying particles. Avoid contact with skin and wash exposed areas thoroughly. Change protective clothing and gloves when signs of contamination appear.

Wood products are combustible and, therefore, should not be subjected to temperatures exceeding the autoignition temperature. Wet down wood dust generated by sawing, sanding, or machining to reduce the likelihood of ignition or dispersion of dust into the air.

For additional information, see the Georgia-Pacific Treated Lumber LLC Material Safety Data Sheet for this product.

Product Safety and Health Information

Georgia-Pacific LLC
P. O. Box 105605
Atlanta, GA 30348-5605

Disclaimer

The information and data herein are believed to be accurate and have been compiled from sources believed to be reliable. It is offered for your consideration, investigation and verification. Buyer assumes all risk of use, storage and handling of the product in compliance with applicable federal, state and local laws and regulations. Georgia-Pacific and its subsidiaries make no warranty of any kind, expressed or implied, concerning the accuracy or completeness of the information and data herein. The implied warranties of merchantability and fitness for a particular purpose are specifically excluded. Georgia-Pacific and its subsidiaries will not be liable for claims relating to any party's use of or reliance on information and data contained herein regardless of whether it is claimed that the information and data are inaccurate, incomplete or otherwise misleading.

Effective Date

29-Sep-2010

Supersedes

29-Jun-2009

Prepared by

Georgia-Pacific LLC
404.652.5119

SAFETY DATA SHEET

1. Chemical Product and Company Identification

Product Identifier:	Alloy Steel, Carbon Steel, HSLA Steel, Coated Carbon Steel, Coated HSLA Steel, Structural Steel
Other Means of Identification:	Hot Rolled, Cold Rolled, Hot Rolled Pickled, Galvanized, Galvannealed
Product Use:	Steel industry. Automotive, Construction, Truck/Truck Trailer, Agriculture, Energy.
Restrictions on Use:	Uses other than the recommended use.
Manufacturer:	Worthington Steel, Inc.
Address:	100 Old Wilson Bridge Road Columbus, OH 43085 United States of America
Telephone:	800-944-3733
Emergency 24-Hour Contact:	CHEMTREC (24 hours) Within USA and Canada: 800-424-9300 (Toll Free) International: +1 703-527-3887

2. Hazard(s) Identification

Classification	Alloy Steel, Carbon Steel, HSLA Steel, Coated Carbon Steel, and Coated HSLA Steel are considered as non-hazardous in their solid forms as sold. However, certain processes, such as cutting, milling, grinding, sawing, brazing, machining, welding or other similar processes could result in the generation of potentially hazardous airborne particulates and fumes.	
Physical hazards	Not classified.	
Health hazards	Sensitization, skin	Category 1
	Carcinogenicity (inhalation)	Category 2
	Specific target organ toxicity, repeated exposure (inhalation, lungs)	Category 1
OSHA defined hazards	None	
Label Elements		
Signal word	Danger	
Hazard Statement	May cause an allergic skin reaction. Suspected of causing cancer by inhalation. Causes damage to organs (lungs) through prolonged or repeated exposure by inhalation.	
Precautionary Statement		
Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust or fumes. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Contaminated work clothing must not be allowed out of the workplace. Keep container tightly closed. Observe good industrial hygiene practices.	

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- Response** If exposed or concerned: Get medical advice/attention. If on skin: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.
- Storage** Store locked up.
- Disposal** Dispose of contents/container in accordance with local/regional/national / international regulations.

Hazard(s) not otherwise classified (HNOC): None known.

Supplemental information: Molten material will produce thermal burns. May form explosible dust-air mixture if small particles are generated during further processing, handling, or by other means.

3. Composition/information on ingredients

Mixtures

Chemical Name	CAS #	Weight %
Iron	7439-89-6	90 - 100
Chromium	7440-47-3	0.0 – 4.0
Nickel	7440-02-0	0.0 – 4.0
Silicon	7440-21-3	0.0 – 2.5
Manganese	7439-96-5	0.0 – 2.0
Carbon	7440-44-0	0.0 – 1.5
Molybdenum	7439-98-7	0.0 – 1.5
Copper	7440-50-8	0.0 – 0.5
Aluminum	7429-90-5	0.0 – 0.2
Phosphorus	7723-14-0	0.0 – 0.05
Lead	7439-92-1	0.0 – 0.01

4. First-aid Measures

- Inhalation** Contact with dust or fume: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.
- Skin Contact** Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Seek medical attention for severe cuts or abrasions.
- Eye Contact** Do not rub eyes. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
- Ingestion** Rinse mouth thoroughly if dust is ingested. Immediately rinse mouth and drink a cupful of water. Get medical attention if symptoms occur.
- Most important symptoms/effects, acute and delayed** Dusts or particulates may irritate the respiratory tract, skin and eyes. May cause an allergic skin reaction. Dermatitis. Rash. Prolonged exposure may cause chronic effects. Heating above the melting point releases metallic oxides which may cause metal fume fever by inhalation. The symptoms are shivering, fever, malaise and muscular pain. Typical metal fume fever begins four to twelve hours after sufficient exposure to freshly formed fumes. The first symptoms are a metallic taste, dryness and irritation of the throat. Cough and shortness of breath may occur along with headache, fatigue, nausea, vomiting, muscle and

SAFETY DATA SHEET

Indication of immediate medical attention and special treatment needed

joint pain, fever and chills. The syndrome runs its course in 24-48 hours. Contact with hot material can cause thermal burns which may result in permanent damage. Chronic exposure to dusts may result in pneumoconiosis of mixed type. Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information

IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting Measures

Suitable extinguishing media

Special powder against metal fires. Dry sand. For steel dust use dry sand, water, foam, argon or nitrogen.

Unsuitable extinguishing media

Apply extinguishing media carefully to avoid creating airborne dust.

Do not use water or halogenated extinguishing media. Avoid high pressure media which could cause the formation of a potentially explosible dust-air mixture. Hot molten material will react violently with water resulting in spattering and fuming.

Specific hazards arising from the chemical

Explosion hazard: Steel products do not present fire or explosion hazards under normal conditions. Any non-oxidized fine metal particles/dust generated by grinding, sawing, abrasive blasting, or individual customer processes may produce materials that the customer should test for combustibility and other hazards in accordance with applicable regulations. Avoid generating dust; fine dust dispersed in air in sufficient concentrations and in the presence of an ignition source is a potential dust explosion hazard.

Contact with acids will release flammable hydrogen gas. During fire, hazardous combustion products are released that may include fumes of metal oxides. In a fire, nickel may form nickel carbonyl, a highly toxic substance and known carcinogen.

Special protective equipment and precautions for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire. In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Use standard firefighting procedures and consider the hazards of other involved materials. Solid metal is not flammable; however, finely divided metallic dust or powder may form an explosive mixture with air.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Emergency response is unlikely unless in the form of combustible dust. Keep unnecessary personnel away. Avoid inhalation, eye, or skin contact of dusts by using appropriate precautions outlined in this SDS (see section 8). Use only non-sparking tools. Fine turnings and small chips should be swept or vacuumed and placed into appropriate disposable containers. Keep fine dust or powder away from sources of ignition. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Wear appropriate protective equipment and clothing during clean-up. Do not breathe dust. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Scrap should be reclaimed for recycling. Prevent materials from entering drains, sewers, or waterways.

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Methods and materials for containment and cleaning up

Some customer processes may generate combustible dust that may require specific precautions when cleaning spills or releases of dust. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Pick up mechanically. Collect dust using a vacuum cleaner equipped with HEPA filter. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Minimize dust generation and accumulation. Recover and recycle, if practical. For waste disposal, see section 13 of the SDS.

Environmental precautions

Some grades of steel may contain reportable quantities of alloying elements. See Section 15 for additional information. Avoid discharge into drains, water courses or onto the ground.

7. Handling and Storage

Precautions for safe handling

Do not handle until all safety precautions have been read and understood. Minimize dust generation and accumulation. Avoid significant deposits of material, especially on horizontal surfaces, which may become airborne and form combustible dust clouds and may contribute to secondary explosions. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dusts and/or powders, alone, or combined with process specific fluids, may form explosive mixtures with air. Applicable Federal, state and local laws and regulations may require testing dust generated from processing of steel products to determine if it represents a fire or explosion hazard and to determine appropriate protection methods. Handling and processing operations should be conducted in accordance with 'best practices' (e.g. NFPA-654). Explosion-proof general and local exhaust ventilation. Do not breathe dusts or fumes. Avoid contact with eyes, skin, and clothing. Avoid contact with sharp edges and hot surfaces. Avoid prolonged exposure. When using, do not eat, drink or smoke. Persons susceptible to allergic reactions should not handle this product. Wash thoroughly after handling. Steel products are massive, and care must be taken to prevent them from falling, rolling or tipping on objects in their path. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store away from strong oxidizers and incompatible materials (see Section 10 of the SDS).

8. Exposure Controls/Personal Protection

Occupational exposure limits

Component	OSHA Permissible Exposure Limits (PEL)	ACGIH Threshold Limit Values (TLV)
Aluminum (CAS 7429-90-5)	5 mg/m ³ - Respirable fraction. 15 mg/m ³ - Total Dust.	1 mg/m ³ - Respirable fraction.
Carbon-Dust TWA (7440-44-0)	5 mg/m ³ - Respirable fraction. 15 mg/m ³ - Total dust.	2 mg/m ³ - Respirable fraction.
Chromium (CAS 7440-47-3)	1 mg/m ³	0.5 mg/m ³ - Inhalable fraction.

SAFETY DATA SHEET

Component	OSHA Permissible Exposure Limits (PEL)	ACGIH Threshold Limit Values (TLV)
Copper (CAS 7440-44-0)	1 mg/m ³ - Dust and mist. 0.1 mg/m ³ - Fume.	1 mg/m ³ - Dust and mist. 0.2 mg/m ³ - Fume.
Lead (CAS 7439-92-1)	0.05 mg/m ³ (TWA)	0.05 mg/m ³ (TWA)
Manganese (CAS 7439-96-5)	Ceiling - 5 mg/m ³ - Fume.	0.1 mg/m ³ - Inhalable fraction.
Molybdenum-Dust TWA (CAS 7439-98-7)	15 mg/m ³ - Total dust. 5 mg/m ³ - Respirable fraction (TWA)	3 mg/m ³ - Respirable fraction.
Nickel (CAS 7440-02-0)	1 mg/m ³	1.5 mg/m ³ - Inhalable fraction.
Phosphorus (CAS 7723-14-0)	0.1 mg/m ³	0.1 mg/m ³
Silicon (CAS 7440-21-3)	5 mg/m ³ - Respirable fraction. 15 mg/m ³ - Total dust. <u>Mineral Dusts TWA</u> 5 mg/m ³ - Respirable fraction. 15 mg/m ³ - Total dust.	---

Appropriate Engineering Controls

Explosion-proof general and local exhaust ventilation. Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).

Individual protection measures, such as personal protective equipment

Eye/Face Protection Use safety glasses. Dust resistant safety goggles are recommended under circumstances where particles could cause mechanical injury such as grinding or cutting. Face shield should be used when welding, cutting or working with molten material.

Skin Protection Wear suitable protective gloves to prevent cuts and abrasions. The following glove materials are recommended: latex, nitrile, neoprene. When material is heated, wear gloves to protect against thermal burns. Other suitable gloves can be recommended by the glove supplier.

Respiratory protection If engineering controls do not maintain airborne concentrations below recommended exposure limits, NIOSH approved dust/fume/mist respirator should be used. If such concentrations are sufficiently high that this respirator is inadequate, or high enough to cause oxygen deficiency, use a positive pressure self-contained breathing apparatus (SCBA). Follow all applicable respirator use, fitting, and training standards and regulations.

Thermal hazards Heat resistant/insulated gloves and clothing are recommended when working with molten material.

Other Wear appropriate chemical resistant clothing.

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General Hygiene Considerations

Observe any medical surveillance requirements. When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and Chemical Properties

Physical State	Solid.
Color	Gray.
Odor	Odorless.
Odor Threshold	Not applicable.
Melting Point/Freezing Point	2400 – 2800 °F (1315.56 – 1537.78°C)
Boiling Point	Not applicable.
Flammability (solid, gas)	Solid metal is not flammable; however, finely divided metallic dust or powder may form an explosive mixture with air.
Upper/Lower Flammability or Explosive Limits	
Explosive limit-lower (%)	Not explosive.
Explosive limit-upper (%)	Not explosive.
Flash Point	Not applicable.
Auto-ignition Temperature	Not available.
Decomposition Temperature	Not available.
pH	Not applicable.
Kinematic Viscosity	Not applicable.
Solubility	Insoluble in water.
Partition Coefficient n-octanol/water (log value)	Not applicable.
Relative Density	7.5 – 8.5. (Water=1)
Particle Characteristics	Not determined.

10. Stability and Reactivity

Reactivity	The product is stable and non-reactive under conditions of use, storage and transport.
Chemical Stability	Material is stable under normal conditions.
Possibility of Hazardous Reactions	Contact with strong acids will release highly flammable hydrogen gas.
Conditions to Avoid	Contact with incompatible materials. Minimize dust generation and accumulation. Avoid molten metal contact with water.
Incompatible Materials	Acids. Bases. Strong oxidizing agents.
Hazardous Decomposition Products	Metallic fumes may be produced during welding, burning, grinding, and possibly machining or any situation with the potential for thermal decomposition. Refer to ANSI Z49.1.

11. Toxicological Information

Information on likely routes of exposure

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Inhalation

Suspected of causing cancer by inhalation. Causes damage to organs through prolonged or repeated exposure by inhalation. Elevated temperatures or mechanical action may form dust and fumes which may be irritating to the mucous membranes and respiratory tract. Lung damage and possible pulmonary edema can result from dust exposure. Inhalation of fumes may cause a flu-like illness called metal fume fever.

Skin Contact

Dust or powder may irritate the skin. May cause an allergic skin reaction. Contact with molten material may cause thermal burns.

Eye Contact

Elevated temperatures or mechanical action may form dust and fumes which may be irritating to the eye.

Ingestion

Ingestion of dusts generated during working operations may cause nausea and vomiting.

Symptoms related to the physical, chemical, and toxicological characteristics

Dusts may irritate the respiratory tract, skin and eyes. May cause an allergic skin reaction. Dermatitis. Rash. Prolonged exposure may cause chronic effects. Heating above the melting point releases metallic oxides which may cause metal fume fever by inhalation. The symptoms are shivering, fever, malaise and muscular pain. Typical metal fume fever begins four to twelve hours after sufficient exposure to freshly formed fumes. The first symptoms are a metallic taste, dryness and irritation of the throat. Cough and shortness of breath may occur along with headache, fatigue, nausea, vomiting, muscle and joint pain, fever and chills. The syndrome runs its course in 24-48 hours. Contact with hot material can cause thermal burns which may result in permanent damage.

Information on toxicological effects

Numerical Measures of Toxicity

Acute Toxicity

Not expected to be acutely toxic.

Components	Species	Test Results
Carbon (CAS 7440-44-0)	Rat	Acute Oral LD50: > 10000 mg/kg
Nickel (CAS 7440-02-0)	Rat Rat	Acute Inhalation NOAEC: 10200 mg/l, 1 hour Acute Oral LD50: > 9000 mg/kg
Silicon (CAS 4110-21-3)	Rat	Acute Oral LD50: 3160 mg/kg
Sulfur (CAS 7704-34-9)	Rabbit Rat Rat	Acute Dermal LD50: > 2000 mg/kg Acute Inhalation (Dust): > 5430 mg/m ³ , 4 hours Acute Oral LD50: > 2000 mg/kg

Delayed and Immediate Effects and Chronic Effects from Short- and Long-Term Exposure

Skin corrosion/irritation

May cause irritation through mechanical abrasion.

Serious eye damage/eye irritation

Elevated temperatures or mechanical action may form dust and fumes which may be irritating to the eyes.

Respiratory sensitization

Not a respiratory sensitizer.

Skin sensitization

May cause an allergic skin reaction.

Germ cell mutagenicity

No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

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Carcinogenicity

Suspected of causing cancer by inhalation.

Steel products contain alloying elements and/or residual elements that are suspected or confirmed human carcinogens (e.g. hexavalent chromium, nickel). IARC identifies welding fumes as a group 2B carcinogen, a mixture that is possibly carcinogenic to humans. Welding fumes are difficult to classify because the composition and quantity are dependent upon the alloy being welded, electrodes used, and process

IARC Monographs, Overall Evaluation of Carcinogenicity

Chromium (CAS 7440-47-3)	3- Not classifiable as to carcinogenicity to humans.
Lead (CAS 7439-92-1)	2B Possibly carcinogenic to humans.
Nickel (CAS 7440-02-0)	2B Possibly carcinogenic to humans.

NTP Report on Carcinogens

Lead (CAS 7439-92-1)	Reasonably Anticipated to be a Human Carcinogen.
Nickel (CAS 7440-02-0)	Reasonably Anticipated to be a Human Carcinogen.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053): Not listed.

Reproductive Toxicity This product is not expected to cause reproductive or developmental effects.

Specific Target Organ Toxicity-Single Exposure Not classified.

Specific Target Organ Toxicity-Repeated Exposure Classified as Category 1 damage to the lung through prolonged or repeated exposure by inhalation.

Aspiration Hazard Not applicable.

Chronic Effects Prolonged and repeated overexposure to dust can lead to benign pneumoconiosis. Long-term (chronic) overexposure to iron can lead to siderosis (iron deposits in lung) and may affect pulmonary function. Chronic exposure to breathing low levels of manganese dust or fume over a long period of time can result in "manganism," a disease of the central nervous system similar to Parkinson's Disease, gait impairment, muscle spasms and behavioral changes. Contains nickel, which can cause lung or nasal cancer. Long-term breathing of this material may cause chronic lung disease. In fumes produced during melting operation, chromium may be present in oxidized form such as hexavalent chromium compounds or other unidentified forms. Some of these hexavalent chromium compounds are generally suspected of being respiratory carcinogens.

Further Information Steel products may be coated with oil-based products to prevent rust. Rust preventive oils are generally applied at customer request and usually contains severely hydrotreated light and heavy naphthenic oils. Prolonged contact with rust preventive oil may cause dermatitis.

12. Ecological Information

Ecotoxicity	This product is not classified as environmentally hazardous.
Persistence and Degradability	The product contains inorganic compounds which are not biodegradable.
Bioaccumulative Potential	No data available.
Mobility in Soil	Alloys in solid form are not mobile in the environment.
Other Adverse Effects	This product contains one or more substances identified as hazardous air pollutants (HAPs) per the US Federal Clean Air Act.

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13. Disposal Considerations

Disposal Instructions	Recover and reclaim or recycle, if practical. Dispose of contents/ container in accordance with local/regional/ national /international regulations.
Hazardous Waste Code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

14. Transport Information

DOT	Not regulated as dangerous goods.
IATA	Not regulated as dangerous goods.
IMDG	Not regulated as dangerous goods.

15. Regulatory Information

US Federal Regulations:	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.	
TSCA Substances Control Act (TSCA)	All components of this product are listed on the TSCA Inventory or are exempt from TSCA Inventory requirements.	
CERCLA Hazardous Substance List	Steel is not reportable; however, it contains hazardous substances that may be reportable if released in pieces with diameters ≤ 0.004 inches.	
	Chromium (CAS 7440-47-3)	Listed.
	Copper (CAS 7440-50-8)	Listed.
	Lead (CAS 7439-92-1)	Listed.
	Manganese (CAS 7439-96-5)	Listed.
	Nickel (CAS 7440-02-0)	Listed.

SARA 304 Emergency release notification	Not regulated.
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OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Lead (CAS 7439-92-1)	Reproductive toxicity, Central nervous system, Kidney, Blood, Acute toxicity
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SARA 311/312 Hazardous chemical

Yes

Classified hazard categories

Immediate Health Effect
Delayed Health Effect

Section 313 Reportable Ingredients

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Concentration (% by weight)</u>
Aluminum	7429-90-5	0.0 – 0.2
Chromium	7440-47-3	0.0 – 4.0
Copper	7440-50-8	0.0 – 0.5
Lead	7439-92-1	0.0 – 0.01
Manganese	7469-96-5	0.0 – 2.0
Nickel	7440-02-0	0.0 – 4.0

Other Federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Chromium (CAS 7440-47-3)
Lead (CAS 7439-92-1)
Manganese (CAS 7439-96-5)
Nickel (CAS 7440-02-0)

Clean Air Act (CAA) Section 112® Accidental Release Prevention (40 CFR 68.130)

Not regulated.

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Safe Drinking Water Act (SDWA)

Contains component(s) regulated under the Safe Drinking Water Act.

US state regulations

Massachusetts Substance List: Chromium (CAS 7440-47-3), Copper (CAS 7440-50-8), Lead (CAS 7439-92-1), Manganese (CAS 7439-96-5), Nickel (CAS 7440-02-0), Silicon (CAS 7440-21-3)

Pennsylvania Hazardous Substance List: Chromium (CAS 7440-47-3), Copper (CAS 7440-50-8), Lead (CAS 7439-92-1), Manganese (CAS 7439-96-5), Nickel (CAS 7440-02-0), Silicon (CAS 7440-21-3)

New Jersey Hazardous Substance List: Chromium (CAS 7440-47-3), Copper (CAS 7440-50-8), Lead (CAS 7439-92-1), Manganese (CAS 7439-96-5), Nickel (CAS 7440-02-0), Silicon (CAS 7440-21-3)

Rhode Island: Carbon (CAS 7440-44-0), Chromium (CAS 7440-47-3), Copper (CAS 7440-50-8), Lead (CAS 7439-92-1), Manganese (CAS 7439-96-5), Nickel (CAS 7440-02-0), Silicon (CAS 7440-21-3)

California Proposition 65:

 **WARNING:** This product can expose you to chemicals including Lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 Carcinogenic substances: Lead (CAS 7439-92-1), Nickel (CAS 7440-02-0)

California Proposition 65 Developmental toxin: Lead (CAS 7439-92-1)

California Proposition 65 Female Reproductive toxin: Lead (CAS 7439-92-1)

California Proposition 65 Male Reproductive toxin: Lead (CAS 7439-92-1)

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a)): Chromium (CAS 7440-47-3), Lead (CAS 7439-92-1), Manganese (CAS 7439-96-5), Copper (CAS 7440-50-8)

16. Other Information

Issue Date: February 19, 2025.

Revision Date: N/A.

Version #: 1

Further information: Refer to:
OSHA 3371-08 2009, Hazard Communication Guidance for Combustible Dusts
NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the
Manufacturing, Processing, and Handling of Combustible Particulate Solids

Disclaimer The Worthington Steel Company cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

COMMON NAME:	PVC Pipe and Fittings	
CHEMICAL NAME:	Not Applicable. Formulation, see section 3.	
FORMULA:	Mixture	
PRODUCT CAS NO.:	Mixture, see Section 3.	
Recommended Use:	Drain Waste Vent and Pressure Pipe and Fittings	
SUPPLIER:	Charlotte Pipe and Foundry Company (Plastics Division)	
ADDRESS:	4210 Old Charlotte Highway	
CITY, STATE, ZIP:	Monroe, NC 28110	
PHONE:	+1-704-372-3650	EMERGENCY PHONE: 1-800-424-9300 (Chemtrec)

2. HAZARDS IDENTIFICATION



GHS Status	This material is hazardous in accordance with the hazard communication standard, 29 CFR 1910.1200
Classification of the substance or mixture	Skin irritation – Category 2 Eye irritation – Category 2A Carcinogenicity – Category 2B Specific target organ toxicity – single exposure – Category 3
GHS label pictogram	Warning
Signal word	Warning



SAFETY DATA SHEET

Hazard statements	Causes serious eye irritation. Causes skin irritation. May cause respiratory irritation. Suspected of causing cancer. Route of exposure: inhalation of airborne unbound particles of respirable size.
Precautionary statements Prevention	Avoid breathing dust/fume/gas/mist. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective respiratory protection.
Response	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If exposed or concerned: Get medical advice/attention.
Storage	Keep away from intense heat, flames. Store locked up.
Disposal	Dispose of in accordance with local regulations.
Hazards not otherwise classified	None known.
Relevant routes of exposure	Skin, eyes, inhalation.
Inhalation	Melted product is flammable and produces intense heat and dense smoke during burning. Irritating gases and fumes may be given off during burning or thermal decomposition. Inhalation of airborne unbound particles of respirable size may cause cancer.
Skin contact	Gases and fumes evolved during thermal processing or decomposition can cause skin irritation.
Eye contact	Dust can cause eye irritation. Gases and fumes evolved during thermal processing or decomposition can cause eye irritation.
Ingestion	No data available.

3. HAZARDOUS INGREDIENTS: COMPOSITION/INFORMATION

INGREDIENT	CAS NUMBER	% WEIGHT
Polyvinyl chloride	9002-86-2	> 80%
Titanium dioxide	13463-67-7	0-5%

4. FIRST AID MEASURES

EYE CONTACT: Immediately flush eyes with plenty of water occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 15 minutes. Consult a physician.

SKIN CONTACT: Rinse with water. Remove contaminated clothing and shoes. In the event of any complaints or symptoms,

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avoid further exposure. Wash clothing before reuse. Clean shoes before reuse.

INHALATION: If vapors from excessive heating, burning or decomposition products are inhaled: remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular, or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing, such as collar, tie, belt, or waistband. 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.

INGESTION: Wash out mouth with water. Remove dentures, if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Loosen tight clothing, such as collar, tie, belt, or waistband. Consult a physician.

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 surveillance for 48 hours.

Specific treatments: None known.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASH POINT: No data.

Decomposition products may be combustible.

FLAMMABLE LIMITS:

LEL: No data

UEL: No data

EXTINGUISHING MEDIA: Water, foam, dry chemical. Do not use CO₂ on Class A fires, as a lack of cooling capacity may result in re-ignition.

FIRE AND EXPLOSION HAZARDS: Solid does not readily release flammable vapors. Thermoplastic polymers can burn. Smoke, Carbon Monoxide, Carbon Dioxide, Aldehydes, Hydrogen Chloride, Tin. Irritating and/or toxic substances will be emitted during burning, combustion, or decomposition. Run-off water from firefighting may have corrosive effects.

PROTECTIVE MEASURES FOR FIRE FIGHTERS: Firefighters must wear a NIOSH-approved, full-facepiece self-contained breathing apparatus (SCBA) operated in positive pressure mode and full turnout or bunker gear with additional chemical protective clothing as necessary to protect against thermal decomposition products.

SPECIAL PROTECTIVE ACTIONS FOR FIRE FIGHTERS: If there is a fire, promptly isolate the scene by removing all persons from the vicinity of the incident. No action shall be taken involving any personal risk or without suitable training.

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6. ACCIDENTAL RELEASE MEASURES

EMERGENCY OVERVIEW

Toxic and irritating gases and fumes may be given off during burning or thermal decomposition. Avoid generating dust. Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Personal precautions, protective equipment, and emergency measures

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. 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 decomposition products or fumes from burning or excessive heating, take note of information in Section 8 on suitable and unsuitable materials. See also 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).

Methods and materials for containment and cleanup

Small spill Avoid dust generation. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. See Section 1 for emergency contact information.

Large spill Move containers from spill area. Approach release from upwind. Prevent entry into sewers, waterways, basements, and confined areas. Avoid dust generation. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. See Section 1 for emergency contact information.

7. HANDLING AND STORAGE

Conditions for safe storage, including any incompatibilities Store in a dry place away from direct sunlight, heat, and incompatible materials. Avoid intense heat and flames.

Precautions for safe handling

Protective measures Put on appropriate personal protective equipment (see Section 8). Do not handle until all safety precautions have been read and understood. Do not get particles, vapors or fumes in eyes, on skin, or on clothing. Do not ingest. If during normal use, the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator.

Advice on general occupational hygiene Employees must wash hands and face before eating, drinking, or smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

INGREDIENT	CAS NUMBER	% WEIGHT	PEL-OSHA	TLV-ACGIH	NIOSH REL
Polyvinyl chloride	9002-86-2	> 80%	None established Particulates not otherwise classified: 15 mg/m ³	1 mg/m ³ (respirable fraction) Particulates not otherwise classified: 10 mg/m ³ (inhalable fraction)	None established
Titanium dioxide	13463-67-7	0-5%	15 mg/m ³ , total dust	10 mg/m ³ TWA	None established

ENGINEERING CONTROLS: If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation, or other engineering controls to keep worker exposure to airborne contaminants below recommended and statutory limits.

RESPIRATORY PROTECTION: Cutting or sanding this product can generate dust. Used a properly fitted particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product, and the safe working limits of the respirator. A NIOSH-approved N95 single use or P95 multiple use respirator will protect the employee from at least 95% of airborne particles. Follow the respirator manufacturer's instructions for proper use. If adhesives or other substances are used with this product, refer to the product manufacturer's safety data sheet for applicable respiratory protective measures.

SKIN PROTECTION: Chemical-resistant, impervious gloves complying with an approved standard should be worn when handling this or any chemical product, 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 containing several substances, the protection time of the gloves cannot be accurately estimated. If adhesives or other substances are used with this product, refer to the product manufacturer's safety data sheet for applicable skin protective measures.

BODY PROTECTION: Personal protective equipment for the body should be selected on the task being performed and the risks involved, and should be approved by a specialist before handling this product. If adhesives or other substances are used with this product, refer to the product manufacturer's safety data sheet for applicable skin protective measures.

EYE/FACE PROTECTION: Safety eyewear complying with an approved standard must be used when a risk assessment indicates this is necessary to avoid exposure to dust. Particulates and dust can be formed when cutting, grinding or sanding this product. If contact with dust or particulates is possible, the following should be worn unless the assessment indicates a higher degree of protection: safety glasses with side shields. If adhesives or other substances are used with this product refer to the product manufacturer's safety data sheet for applicable eye and face protective measures.

SAFETY DATA SHEET**9. PHYSICAL AND CHEMICAL PROPERTIES**

APPEARANCE:	Solid. White/grey.
ODOR:	Not applicable
ODOR THRESHOLD:	Not available
BOILING POINT:	Not available
FLASH POINT:	Not applicable
FLAMMABILITY:	Melted product is flammable.
AUTOIGNITION TEMPERATURE:	Not applicable
DECOMPOSITION TEMPERATURE:	Not available
LOWER/UPPER EXPLOSION LIMITS:	Not available
VAPOR PRESSURE:	Not available
LIQUID DENSITY:	Not available
SPECIFIC GRAVITY:	Approximately 1.4
MELTING POINT:	Not available
pH:	Not available
SOLUBILITY:	Insoluble
% VOLATILE:	Not available
VISCOSITY:	Not available

10. STABILITY AND REACTIVITY

Stability:	Stable at normal temperatures and pressures.
Reactivity:	Stable at normal temperatures and pressures.
Conditions to avoid:	Heat, flames, sparks and other sources of ignition.
Incompatible materials/conditions:	Consult the Charlotte Pipe and Foundry chemical resistance guide.
Hazardous decomposition products:	Hydrogen chloride, carbon oxides, small amounts of benzene and aromatic and aliphatic hydrocarbons, phosgene.
Hazardous polymerization:	Not available.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY: No toxicological data is available for the finished product.

SENSITIZATION: No data available.

MUTAGENICITY: No data available.

DEVELEPMENTAL: No data available.

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FERTILITY: No data available.

CARCINOGENICITY: Airborne unbound titanium dioxide particles of respirable size are classified by the International Agency for Research on Cancer (IARC) as 2B, possibly carcinogenic to humans. This product does not contain ingredients classified by the National Toxicology Program Report or OSHA at 29 CFR 1910, Subpart Z, as a carcinogen.

REPRODUCTIVE TOXICITY: Not available

TERATOGENICITY: Not available

SPECIFIC TARGET ORGANS – SINGLE EXPOSURE: Not available

SPECIFIC TARGET ORGANS – REPEATED EXPOSURE: Not available

ASPIRATION HAZARD: Not available

INFORMATION ON THE LIKELY ROUTES OF EXPOSURE:

Potential acute health effects

Eye contact	No known significant effects or critical hazards. Dust can cause eye irritation.
Inhalation	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Skin contact	Skin irritant.
Ingestion	No known significant effects or critical hazards.

Symptoms related to the physical, chemical, and toxicological characteristics

Eye contact	No data available.
Inhalation	No data available.
Skin contact	Adverse symptoms may include irritation.
Ingestion	No data available.

Immediate, delayed and chronic effects from short term exposure

Short term exposure

Potential immediate effects	No data available.
Potential delayed effects	No data available.

Long term exposure

Potential immediate effects	No data available.
Potential delayed effects	No data available.

Potential chronic effects

General	No data available.
Carcinogenicity	Airborne unbound titanium dioxide particles of respirable size are classified as IARC 2B, possibly carcinogenic to humans. On the date of preparation of this SDS, this product did not contain ingredients listed by OSHA or NTP. See Section 11.

12. ECOLOGICAL INFORMATION

Numerical measures of toxicity No data available

Persistence and degradability

Does not biodegrade over time.

Bioaccumulative potential

No data available

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Mobility in soil

No data available.

Other adverse effects: No known significant or critical hazards.

13. DISPOSAL CONSIDERATIONS

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste should not be disposed of to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste and packaging should be recycled when possible. Incineration or landfill should only be considered when recycling is not feasible. This material must be disposed of in a safe way.

14. TRANSPORT INFORMATION

PROPER SHIPPING NAME:	Not Regulated
HAZARD CLASS:	Not Regulated
IDENTIFICATION NUMBER:	Not Regulated
SHIPPING LABEL:	Not Regulated
PACKING GROUP:	Not Regulated

15. REGULATORY INFORMATION

United States

TSCA 8(b):

All ingredients are listed on the U.S. Toxic Substances Control Act inventory.

This product can expose you to chemicals including titanium dioxide, which is known to the State of California to cause cancer. For more information, go to

www.P65Warnings.ca.gov.

16. OTHER INFORMATION

Date of Preparation: 20 April 2020

Key to Acronyms:

CAS:	Chemical Abstracts Service
CFR:	Code of Federal Regulations
HEPA	High-Efficiency Particulate Air (filter)
IARC:	International Agency for Research on Cancer
LD ₅₀ :	Lethal dose to 50% of exposed laboratory animals
LC ₅₀ :	Lethal concentration to 50% of exposed laboratory animals
LEL:	Lower Explosive Limit
mg/l:	Milligrams per liter
NIOSH:	National Institute for Occupational Safety and Health (US)
NTP:	National Toxicology Program
OSHA:	Occupational Safety and Health Administration (US)
PEL:	Permissible Exposure Limit
TSCA:	Toxic Substances Control Act
TLV:	Threshold Limit Value – American Conference of Governmental Industrial Hygienists (ACGIH)
TWA:	Time Weighted Average
UEL:	Upper Explosive Limit

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ug/m³:

Micrograms per cubic meter

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Safety Data Sheet

Revision Date: 11/14/2024

SECTION 1: IDENTIFICATION

Product Name



A/ISO Component

Recommended Use

Polyurethane Component

Company Information

FSI
13389 Lakefront Drive
Earth City, MO 63045
www.fsi.co

EMERGENCY RESPONSE

HEALTH & SAFETY

First Aid O Treatment
Call ProPharma Group Co.
FSI Dedicated No.
800-391-2138

CHEMICAL SPILLS

Call CHEMTREC
United States: 800-424-9300
International: +1 703-527-3887
www.chemtrec.com
Reference: CCN8678

SECTION 2: HAZARDS IDENTIFICATION

Hazards Identification

Skin irritation	Category 2
Skin sensitization	Category 1B
Eye irritation	Category 2B
Acute toxicity	Category 4 - Inhalation
Specific target organ toxicity – single exposure	Category 3 (respiratory protection)
Specific target organ toxicity – repeated exposure	Category 2 (respiratory tract)
Respiratory sensitization	Category 1

Label Elements

Hazard pictograms



Signal word

DANGER

Hazards

Causes skin and eye irritation.
May cause an allergic skin reaction.
Harmful if inhaled.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation.
May cause damage to organs (Respiratory Tract) through prolonged or repeated exposure if inhaled.

Precautionary statements

Prevention

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash skin thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.



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Response	Wear protective gloves. Use personal protective equipment as required. In case of inadequate ventilation wear respiratory protection.
	IF ON SKIN: Wash with plenty of soap and water. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing Call a POISON CENTER or doctor/physician if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If exposed or concerned: Get medical advice/attention. If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal	Dispose of contents/container in accordance with existing federal, state, and local environmental control laws.
Other hazards	No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CASRN	Weight %
Polymeric Diphenylmethane Diisocyanate (pMDI)	9016-87-9	50-70%
4,4'-Diphenylmethane Diisocyanate (MDI)	101-68-8	30-50%

The specific chemical identity and/or exact percentage of component(s) have been withheld as a trade secret.

SECTION 4: FIRST AID MEASURES

General advice: Provide this SDS to medical personnel for treatment. Move out of dangerous area. Do not leave the victim unattended. Get medical attention immediately if symptoms occur. Show this safety data sheet to the doctor in attendance. First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move to an area free from further exposure. Extreme asthmatic reactions that may occur in sensitized persons can be life threatening. Get medical attention immediately. Administer oxygen or artificial respiration as needed. Asthmatic symptoms may develop and may be immediate or delayed up to several hours.

Skin contact: If direct skin contact with isocyanates occurs, immediately remove contaminated clothing and shoes. Wipe off the isocyanate product from the skin using dry towels or other similar absorbent fabric. Wash with soap and warm water for 15 minutes

Eye contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Use lukewarm water if possible. Use fingers to ensure that eyelids are separated and that the eye is being irrigated. Get medical attention.

Ingestion: Do NOT induce vomiting. Wash mouth out with water. Do not give anything by mouth to an unconscious person. Get medical attention.

Notes to Physician: Maintain adequate ventilation and oxygenation of the patient. May cause respiratory sensitization or asthma-like symptoms. Bronchodilators, expectorants and antitussives may be of help. Treat bronchospasm with inhaled beta2 agonist and oral or parenteral corticosteroids. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. If you are sensitized to diisocyanates, consult your physician regarding working with other respiratory irritants or sensitizers. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).

SECTION 5: FIREFIGHTING MEASURE

Suitable extinguishing media: Dry chemical, Carbon dioxide (CO₂), Foam, water spray for large fires.



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Unsuitable extinguishing media: High volume water jet

Specific hazards:

Unusual Fire and Explosion Hazards:

Firefighting procedures: Keep people away. Isolate fire and deny unnecessary entry. Stay upwind. Keep out of low areas where gases (fumes) can accumulate. Water is not recommended but may be applied in large quantities as a fine spray when other extinguishing agents are not available. Do not use direct water stream. May spread fire. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Move container from fire area if this is possible without hazard. Use water spray to cool fire-exposed containers and fire-affected zone until fire is out. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this SDS.

Protective Equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective firefighting clothing (includes firefighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during firefighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Emergency release measures: Isolate area. Keep unnecessary and unprotected personnel from entering the area. Keep personnel out of low areas. Keep upwind of spill. Spilled material may cause a slipping hazard. Ventilate area of leak or spill. If available, use foam to smother or suppress. Refer to section 7 for additional precautionary measures. See Section 10 for more specific information. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Containment and cleanup: Contain spilled material if possible. Absorb with materials such as: dirt, vermiculite, sand and clay. Do NOT use absorbent materials such as: Cement powder (Note: may generate heat). Collect in suitable and properly labeled open containers. Do not place in sealed containers. Suitable containers include: metal drums, plastic drums and polylined fiber pacs. Wash the spill site with large quantities of water. Attempt to neutralize by adding suitable decontaminant solution: Formulation 1: sodium carbonate 5 - 10%; liquid detergent 0.2 - 2%; water to make up to 100%, OR Formulation 2: concentrated ammonia solution 3 - 8%; liquid detergent 0.2 - 2%; water to make up to 100%. If ammonia is used, use good ventilation to prevent vapor exposure. Contact your supplier for clean-up assistance. See Section 13, Disposal Considerations, for additional information.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling: Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling. Avoid breathing vapor. Use with adequate ventilation. Keep container tightly closed. See Section 8, Exposure Controls/Personal Protection. Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

Conditions for safe storage: Store in a dry place. Protect from atmospheric moisture. Do not store product contaminated with water to prevent potential hazardous reaction. See Section 10 for more specific information. Additional storage and handling information on this product may be obtained by calling your sales or customer service contact.

Storage stability:

Storage period: 6 months

Storage temperature: 15°-38°C (59°-100°F)

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Component	Type	Value
4,4'-Diphenylmethane Diisocyanate (MDI) (101-68-8)	OSHA PEL	CLV 0.02 ppm
	ACGIH TLV	TWA value 0.005 ppm



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Exposure controls: Use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations. Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines. Exhaust systems should be designed to move the air away from the source of vapor/aerosol generation and people working at this point. The odor and irritancy of this material are inadequate to warn of excessive exposure.

Personal protective equipment:

Eye/Face protection

When directly handling liquid product, eye protection is required. Examples of eye protection include a chemical safety goggle, or chemical safety goggle in combination with a full-face shield when there is a greater risk of splash.

Skin protection

Avoid all skin contact. Depending on the conditions of use, cover as much of the exposed skin area as possible with appropriate clothing to prevent skin contact. Animal tests and other research indicate that skin contact with MDI can play a role in causing isocyanate sensitization and respiratory reaction. This data reinforces the need to prevent direct skin contact with isocyanates.

Respiratory protection

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

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.

In emergency, non-routine and unknown exposure situations, including confined space entries, a NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied air respirator (SAR) with auxiliary self-contained air supply, should be used.

Other protection

Handle in accordance with good industrial hygiene and safety practice. Wash face, hands and any exposed skin thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. When using do not eat, drink or smoke. Contaminated work clothing should not be allowed out of the workplace. Wash hands before breaks and immediately after handling the product. Wash hands before breaks and at the end of workday.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid
Color	Brown
Odor	Musty
Odor Threshold	No data available
pH	No data available
Relative evaporation rate (BuAc=1)	No data available
Melting point	No data available
Freezing point	No data available
Boiling point (1 atm)	No data available
Flash point	>150 °C (>302 °F) Method: closed cup



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Auto-ignition temperature	No data available
Decomposition temperature	No data available
Flammability (solid, gas)	Not applicable
Vapor pressure @ 25 °C (77 °F)	< 0.0001 mmHg
Relative vapor density @ 20°C (68 °F)	No data available
Specific Gravity @ 25°C (77 °F)	1.23
Water Solubility	Insoluble - Reacts slowly with water to liberate CO ₂ gas
Viscosity, dynamic @ 25°C (77°F)	150 - 250 cP
Explosive properties	No data available

NOTE: Physical data should not be construed as a specification

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Contact with moisture, other materials that react with isocyanates, or temperatures above 177°C (350°F), may cause polymerization. Moisture (water and high humidity) or high heat (temperatures greater than 177°C (350°F)) can cause pressure build-up with possible explosive rupture.

Chemical stability: Stable under normal conditions of use and storage.

Possible hazardous reactions:

Conditions to avoid: Extremes of temperature and direct sunlight. Exposure to air or moisture over prolonged periods.

Materials to Avoid: Water, Amines, Strong bases, Alcohols, Copper alloys

Hazardous decomposition products: By Fire and High Heat: Carbon dioxide (CO₂), carbon monoxide (CO), oxides of nitrogen (NO_x), dense black smoke., Isocyanate, Isocyanic Acid, Other undetermined compounds

SECTION 11: TOXICOLOGICAL INFORMATION

Routes of exposure: Inhalation, ingestion, skin or eye contact.

Acute oral toxicity: Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. Typical for this family of materials. LD₅₀, Rat, >10,000 mg/kg

Acute dermal toxicity: Prolonged skin contact is unlikely to result in absorption of harmful amounts. Typical for this family of materials. LD₅₀, Rabbit, >9,400 mg/kg

Acute inhalation toxicity: At room temperature, vapors are minimal due to low volatility. However, certain operations may generate vapor or mist concentrations sufficient to cause respiratory irritation and other adverse effects. Such operations include those in which the material is heated, sprayed or otherwise mechanically dispersed such as drumming, venting or pumping. Excessive exposure may cause irritation to upper respiratory tract (nose and throat) and lungs. May cause pulmonary edema (fluid in the lungs.) Effects may be delayed. Decreased lung function has been associated with overexposure to isocyanates. LC₅₀, Rat, 4 Hour, dust/mist, 0.49 mg/l For similar material(s): 2,4'-Diphenylmethane diisocyanate (CAS 5873-54-1). LC₅₀, Rat, 4 Hour, Aerosol, 0.31 mg/l For similar material(s): 4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8). LC₅₀, Rat, 1 Hour, Aerosol, 2.24 mg/l

Skin corrosion/Irritation: Prolonged contact may cause slight skin irritation with local redness. May stain skin



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Serious eye damage/ irritation:

May cause moderate eye irritation. May cause slight temporary corneal injury.

Sensitization:

Assessment of sensitization: Sensitization after skin contact possible. The substance may cause sensitization of the respiratory tract. As a result of previous repeated overexposures or a single large dose, certain individuals will develop isocyanate sensitization (chemical asthma) which will cause them to react to a later exposure to isocyanate at levels well below the PEL/TLV. These symptoms, which include chest tightness, wheezing, cough, shortness of breath, or asthmatic attack, could be immediate or delayed up to several hours after exposure. In those who have developed a skin sensitization, these symptoms can develop as a result of contact with very small amounts of liquid material, or even as a result of vapour-only exposure. Animal tests indicate that skin contact may play a role in causing respiratory sensitization.

Specific target organ systemic toxicity (Single Exposure):

May cause respiratory irritation. Route of Exposure: Inhalation Target Organs: Respiratory Tract

Carcinogenicity:

Lung tumors have been observed in laboratory animals exposed to respirable aerosol droplets of MDI/ Polymeric MDI (6 mg/m³) for their lifetime. Tumors occurred concurrently with respiratory irritation and lung injury. Current exposure guidelines are expected to protect against these effects reported for MDI.

Teratogenicity:

In laboratory animals, MDI/polymeric MDI did not cause birth defects; other fetal effects occurred only at high doses which were toxic to the mother.

Reproductive toxicity:

No relevant data found.

Mutagenicity:

Genetic toxicity data on MDI are inconclusive. MDI was weakly positive in some in vitro studies; other invitro studies were negative. Animal mutagenicity studies were predominantly negative

Aspiration hazard:

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

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity:**Acute toxicity to fish:**

The measured ecotoxicity is that of the hydrolyzed product, generally under conditions maximizing production of soluble species. 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, >1,000 mg/l, OECD Test Guideline 203 or Equivalent

Acute Toxicity to Aquatic Invertebrates:

EC50, Daphnia magna (Water flea), static test, 24 Hour, >1,000 mg/l, OECD Test Guideline 202 or Equivalent

Acute Toxicity to Algae/Aquatic Plants:

NOEC, Desmodesmus subspicatus (green algae), static test, 72 Hour, Growth rate inhibition, 1,640 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to Bacteria:

EC50, activated sludge, static test, 3 Hour, Respiration rates., >100 mg/l

Toxicity to Soil-Dwelling Organisms:

EC50, Eisenia fetida (earthworms), 14 d, >1,000 mg/kg

Toxicity to Terrestrial Plants:

EC50, Avena sativa (oats), Growth inhibition, 1,000 mg/l

EC50, Lactuca sativa (lettuce), Growth inhibition, 1,000 mg/l

Persistence and Degradability:



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Biodegradability:	In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polyureas which appear to be stable. In the atmospheric environment, material is expected to have a short tropospheric half-life, based on calculations and by analogy with related diisocyanates.
10-day Window:	Not applicable
Biodegradation:	0%
Exposure time:	28 days
Method:	OECD Test Guideline 302°C or Equivalent

Bioaccumulative potential:

Bioaccumulation:	Bioconcentration potential is low ($BCF < 100$ or $\log P_{ow} < 3$). Reacts with water. In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.
Bioconcentration factor (bcf):	92 Cyprinus carpio (Carp) 28 days
Mobility in Soil:	In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

SECTION 13: DISPOSAL CONSIDERATIONS

Cylinder/pressure vessels:	Return to FSI
Disposal methods:	Do not dump into any sewers, on the ground, or into any body of water. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN SDS Section 3: Composition information. For unused & uncontaminated product, the preferred options include sending to a licensed, permitted: recycler, reclaimer, incinerator or other thermal destruction device. For additional information, refer to: Handling & Storage Information-SDS Section 7, Stability & Reactivity Information-SDS Section 10, Regulatory Information-SDS Section 15.

SECTION 14: TRANSPORT INFORMATION

Land Transport (DOT)	When in individual containers of less than the Product RQ, this material is not regulated as dangerous goods
UN Shipping Name:	ENVIRONMENTAL HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains Methylene Diphenyl Diisocyanate (MDI))
UN #:	UN 3082
Hazard Class:	9
Packing Group:	III
Hazard Label	Class 9



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DOT Regulated Components:	4 ,4'-Diphenylmethane Diisocyanate (MDI)
Product Reportable Quantity (RQ):	5400 kg (11905 lbs.)
Vessel Transport (IMDG)	Not regulated as dangerous goods
Air transport (IATA)	Not regulated as dangerous goods

SECTION 15: REGULATORY INFORMATION

OSHA Hazard Communication Standard:	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312:	Acute Health Hazard Chronic Health Hazard Reactivity Hazard
Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313:	This product contains the following substances which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and which are listed in 40 CFR 372

Component	CASRN
Polymeric Diphenylmethane Diisocyanate (pMDI)	9016-87-9
4,4'-Diphenylmethane Diisocyanate (MDI)	101-68-8

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Section 103:

Component	CASRN	RQ
4,4'-Diphenylmethane Diisocyanate (MDI)	101-68-8	2,268 kg (5000 lbs.)

Pennsylvania Worker and Community Right-To-Know Act: To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986): This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

United States TSCA Inventory (TSCA): All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

SECTION 16: OTHER INFORMATION

Product literature: Additional information on this product may be obtained by calling your sales or customer service contact.

Product Stewardship: FSI and its subsidiaries are committed to stewardship and have a concern for, the health and safety for all individuals who come in contact with its products, as well as the environment. This philosophy is a foundation on which we assess information to appropriately protect individuals and preserve our environment. Success of stewardship rests with each and every individual involved in the cradle to grave life cycle of our products.

FSI supports and follows Responsible Care Guiding Principles.



Safety Data Sheet

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The information and recommendations set forth herein are believed to be accurate as of the date hereof. FSI makes no warranty with respect thereto and disclaims any liability from reliance thereon.



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Revision Date: 11/14/2024

SECTION 1: IDENTIFICATION

Product Name



HD3

B/POLYOL Component

Recommended Use

Polyurethane Component

Company Information

FSI

13389 Lakefront Drive

Earth City, MO 63045

www.fsi.co

EMERGENCY RESPONSE

HEALTH & SAFETY

First Aid O Treatment
Call ProPharma Group Co.
FSI Dedicated No.
800-391-2138

CHEMICAL SPILLS

Call CHEMTREC
United States: **800-424-9300**
International: **+1 703-527-3887**
www.chemtrec.com
Reference: CCN8678

SECTION 2: HAZARDS IDENTIFICATION

Hazards Identification

Skin irritation

Category 2

Eye irritation

Category 2A

Combustible Liquid

Category 4

Label Elements

Hazard pictograms



Signal word

WARNING

Hazards

May cause skin irritation.

Causes eye irritation.

May cause respiratory irritation

Precautionary statements

Prevention

Do not breathe dust/fume/gas/mist/vapors/spray.

Use personal protective equipment as required.

Wash skin thoroughly after handling.

Wear protective gloves.

Response

IF ON SKIN: Wash with plenty of soap and water.

IF INHALED: Remove victim to fresh air and keep at rest in position comfortable for breathing.

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.

Storage

Store in a well-ventilated place. Keep container tightly closed.

Disposal

Dispose of contents/container in accordance with existing federal, state, and local environmental control laws.



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Other hazards

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CASRN	Weight %
Methyl Formate	107-31-3	0-5%
Catalyst blend	Proprietary	1-8%
Trans 1,2 dichloroethylene	156-60-5	0-5%

The specific chemical identity and/or exact percentage of component(s) have been withheld as a trade secret.

SECTION 4: FIRST AID MEASURES

General advice: Provide this SDS to medical personnel for treatment

Inhalation: Remove exposed individual(s) to fresh air for 20 minutes. Consult a physician / poison center if individual's condition declines or if symptoms persist.

Skin contact: Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Get medical attention if irritation develops or persists. Wash contaminated clothing before reuse.

Eye contact: Rinse with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion: Rinse mouth. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If conscious give 2 glasses of water to dilute. Get medical attention.

Notes to Physician: No specific treatment. Treat supportively and symptomatically

SECTION 5: FIREFIGHTING MEASURE

Suitable extinguishing media: Foam, alcohol foam, carbon dioxide, dry chemical, or water fog.

Unsuitable extinguishing media: Not determined

Specific hazards: May emit toxic or irritating fumes if burned. Sealed containers may build pressure if heated. If possible, spray containers exposed to fire with water to keep cool.

Hazardous Combustion Products: Carbon oxides, Nitrogen Oxides

Unusual Fire and Explosion Hazards: none

Firefighting procedures: Heated containers may rupture. Use water spray to keep fire-exposed containers cool.

Protective Equipment for firefighters: Firefighters should wear full protective clothing to guard against exposure to toxic and irritating fumes as well as a self-contained breathing apparatus with full face piece operated in a positive pressure mode.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Emergency release measures: Use personal protective equipment

Environmental precautions: Prevent from entering soil, ditches, sewers, waterways and/or groundwater.

Containment and cleanup: Prevent further leakage or spillage if safe to do so. Soak up and contain spill with an inert (i.e. vermiculite, dry sand or earth) absorbent material. Sweep up and shovel into suitable containers for disposal. Clean contaminated surface thoroughly.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling: Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling. Avoid breathing vapor. Use with adequate ventilation. Keep container tightly closed. See Section 8, Exposure Controls/Personal Protection. Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

Conditions for safe storage: Store in a dry place. Protect from atmospheric moisture. See Section 10 for more specific information. Additional storage and handling information on this product may be obtained by calling your sales or customer service contact.

Storage period: 6 months

Storage temperature: 15°-30°C (59°-86°F)



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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Component	Type	Value
Methyl formate	ACGIH TLV TWA	100 mg/m ³
	OSHA PEL TWA	100 mg/m ³
Catalyst blend	TWA	Not established
Trans 1,2 dichloroethylene	TWA	200 ppm

Exposure controls: (Based on A/ISO component, See Section 8, pages 3-4) Use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations. Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines. Exhaust systems should be designed to move the air away from the source of vapor/aerosol generation and people working at this point. The odor and irritancy of this material are inadequate to warn of excessive exposure.

Personal protective equipment:

Eye/Face protection

Chemical goggles

Skin protection

Chemical resistant gloves

Respiratory protection

Atmospheric levels should be maintained below the exposure guideline. When atmospheric levels may exceed the exposure guideline, use an approved air-purifying respirator equipped with an organic vapor sorbent and a particle filter. For situations where the atmospheric levels may exceed the level for which an air-purifying respirator is effective, use a positive-pressure air-supplying respirator (compressed breathing air or self-contained breathing apparatus). For emergency response or for situations where the atmospheric level is unknown, use an approved positive-pressure self-contained breathing apparatus or positive-pressure air line with auxiliary self-contained air supply.

Other protection

Handle in accordance with good industrial hygiene and safety practice. Wash face, hands and any exposed skin thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. When using do not eat, drink or smoke. Contaminated work clothing should not be allowed out of the workplace. Wash hands before breaks and immediately after handling the product.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid
Color	Amber
Odor	Ethereal
Odor Threshold	Not determined
pH	Not applicable
Melting point	Not applicable
Freezing point	Not applicable
Boiling point (1 atm)	Decomposes before boiling
Flash point	≥49°C (≥121°F) Method: closed cup
Auto-ignition temperature	Not determined
Decomposition temperature	Not determined
Flammability (solid, gas)	Not applicable



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Vapor pressure @ 25 °C (77°F)	Not determined
Relative vapor density @ 20°C (68°F)	Not applicable
Specific Gravity @ 25°C (77°F)	1.04
Water Solubility	Not applicable
Viscosity, dynamic @ 25°C (77°F)	350-800 cP
Explosive properties	Not applicable
NOTE: Physical data should not be construed as a specification	

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Polyols and polyol blends react with isocyanates

Chemical stability: Stable under recommended storage conditions. See Storage, Section 7.

Possible hazardous reactions: Not applicable

Conditions to avoid: Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems. Pressure build-up can be rapid. Avoid moisture. Material reacts slowly with water, releasing carbon dioxide which can cause pressure buildup and rupture of closed containers. Elevated temperatures accelerate this reaction.

Incompatible materials: Polyols and polyol blends react with isocyanates.

Hazardous decomposition products: CO, CO₂, NO_x

SECTION 11: TOXICOLOGICAL INFORMATION

Routes of Exposure:	Inhalation, ingestion, skin or eye contact.
Acute Toxicity:	May cause skin/eye irritation.
Chronic Toxicity:	May cause skin/eye irritation.
Toxicological Characteristics:	May cause skin irritation.
Chronic Effects:	May cause skin irritation; avoid contact with eyes.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity:	Not a marine pollutant.
Persistence and Degradability:	No known significant effects.
Bio accumulative Potential:	Does not bioaccumulate.
Mobility in Soil:	Adsorption to solid soil phase is not expected.

SECTION 13: DISPOSAL CONSIDERATIONS

Cylinder/Pressure Vessels:	Return to FSI
Disposal Methods:	Do not dump into any sewers, on the ground, or into any body of water. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN SDS Section 3: Composition information. For unused & uncontaminated product, the preferred options include sending to a licensed, permitted: recycler, reclaimer, incinerator or other thermal destruction device. For additional information, refer to: Handling &



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Storage Information-SDS Section 7, Stability & Reactivity Information-SDS Section 10, Regulatory Information-SDS Section 15.

SECTION 14: TRANSPORT INFORMATION

Land Transport (DOT)	Not regulated as dangerous goods
Vessel Transport (IMDG)	Not regulated as dangerous goods
Air Transport (IATA)	Not regulated as dangerous goods

SECTION 15: REGULATORY INFORMATION

Inventory Status:	All components TSCA listed.
US Regulations:	No ingredients listed. Not Applicable.
US SARA Act Title 3 Section 313:	No ingredients listed. Not Applicable

SECTION 16: OTHER INFORMATION

Product literature: Additional information on this product may be obtained by calling your sales or customer service contact.

Product Stewardship: FSI and its subsidiaries are committed to stewardship and have a concern for, the health and safety for all individuals who come in contact with its products, as well as the environment. This philosophy is a foundation on which we assess information to appropriately protect individuals and preserve our environment. Success of stewardship rests with each and every individual involved in the cradle to grave life cycle of our products.

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