



Conforms to HazCom 2012/United States

# SAFETY DATA SHEET



## Junction<sup>®</sup> Fungicide/Bactericide

### Section 1. Identification

<b>GHS product identifier:</b>	Junction <sup>®</sup> Fungicide/Bactericide
<b>Recommended use of the chemical and restrictions on use Identified uses:</b>	Fungicide/Bactericide
<b>EPA Registration No.:</b>	67690-35
<b>Supplier's details:</b>	SePRO Corporation 11550 North Meridian Street Suite 600 Carmel, IN 46032 U.S.A. Tel: 317-580-8282/Toll free: 1-800-419-7779 Fax: 317-580-8290 Monday - Friday, 8am to 5pm <a href="http://www.sepro.com">E.S.T. www.sepro.com</a>
<b>Emergency telephone number:</b>	INFOTRAC – 24-hour service 1-800-535-5053

The following recommendations for exposure controls and personal protection are intended for the manufacture, formulation and packaging of this product. For applications and/or use, consult the product label. The label directions supersede the text of this Safety Data Sheet for application and/or use.

### Section 2. Hazards identification

**OSHA/HCS status:** This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or mixture:**

ACUTE TOXICITY – ORAL - Category 4  
ACUTE TOXICITY – INHALATION (DUST/MISTS) – Category 4  
SERIOUS EYE DAMAGE/EYE IRRITATION – Category 1  
SKIN SENSITIZATION – Category 1  
CARCINOGENICITY – Category 1A  
REPRODUCTIVE TOXICITY – Category 2

**GHS label elements**



**Hazard pictograms:**

**Signal word:** Danger



## SDS

## Junction Fungicide/Bactericide

**Hazard statements:** Harmful if swallowed  
Harmful if inhaled  
Causes serious eye damage  
May cause an allergic skin reaction  
May cause cancer  
Suspected of damaging fertility or the unborn child

### Precautionary statements

**Prevention:** Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
Use personal protective equipment as required  
Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Use only outdoors or in a well-ventilated area  
Contaminated work clothing should not be allowed out of the workplace  
Wear protective gloves

**Response:** IF exposed or concerned: Get medical advice/attention  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
Immediately call a POISON CENTER or doctor/physician  
IF ON SKIN: Wash with plenty of soap and water  
If skin irritation or rash occurs: Get medical advice/attention  
Wash contaminated clothing before reuse  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
Rinse mouth

**Storage:** Store locked up

**Disposal:** Dispose of contents/container to an approved waste disposal plant

**Other Hazards:** May be harm in contact with skin. Very toxic to aquatic life with long lasting effects.  
Very toxic to aquatic life.

**Hazards not otherwise Classified:** Not applicable.



### Section 3. Composition/information on ingredients

**Chemical nature:** This product is a mixture.

Chemical name	%	CAS number
Copper hydroxide	46.1	20427-59-2
Other ingredients	22.2	Proprietary
Mancozeb	15.0	8018-01-7
Bentonite	13-14	1302-78-9
Zinc oxide	3-4	1314-13-2
Quartz	0.1-1	14808-60-7

If CAS number is "proprietary", the specific chemical identity and percentage of the composition has been withheld as a trade secret.

### Section 4. First aid measures

#### Description of first aid measures

**General advice**

Call a poison control center or doctor for treatment advice. Have the product containers or label with you when calling a poison control center or doctor, or going for treatment.

**Eye contact:**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison control center or doctor for treatment advice.

**Skin contact:**

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before reuse. If skin irritation persists, call a physician. Call a poison control center or doctor for treatment advice.

**Inhalation:**

Move victim to fresh air. If breathing is irregular or stopped, administer artificial respiration. Call a physician or poison control center immediately. Call a poison control center or doctor for treatment advice.

**Ingestion:**

Call a physician or poison control center immediately. Drink 1 or 2 glasses of water. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

**Self-protection of the first aider:**

Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**Most important symptoms and effects, both acute and delayed:**

May cause redness and tearing of the eyes. May result in permanent damage including blindness. Repeated contact may cause allergic reactions in very susceptible persons. Coughing and/ or wheezing.

**Indication of any immediate medical attention and special treatment needed:**

Note to physicians: Probable mucosal damage may contraindicate the use of gastric lavage. Treat symptomatically.

## Section 5. Fire-fighting measures

**Suitable extinguishing media:**

Dry chemical, CO<sub>2</sub>, water spray or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal.

**Unsuitable extinguishing media:**

Do not scatter spilled material with high pressure water streams.

**Special hazards arising from the chemical:**

Thermal decomposition can lead to release of irritating and toxic gases and vapors. Runoff may pollute waterways.

**Explosion Data****Sensitivity to:**

**Mechanical Impact**  
**Static Discharge**

None  
None

**Protective equipment and precautions for firefighters:**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Cool containers / tanks with water spray.

## Section 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures:****Personal Precautions**

Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation, especially in confined areas. Avoid creating dust.

**For emergency responders**

Use personal protection recommended in Section 8. Ventilate the area.

**Environmental precautions:**

Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.

**Methods and material for Containment:**

Prevent dust cloud. Prevent further leakage or spillage if safe to do so.

**Cleaning up:**

Avoid creating dust. Do not dry sweep dust. Wet dust with water before sweeping or use a vacuum to collect dust. Sweep up and shovel into suitable containers for disposal. Do not place spilled materials back into the original container.



## Section 7. Handling and storage

**Precautions for safe handling:** Avoid generation of dust. Use personal protective equipment as required. Do not breathe dust. Avoid contact with skin, eyes or clothing. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product.

### Conditions for safe storage, Including any incompatibilities

<b>Storage Conditions</b>	Keep container tightly closed in a dry and well-ventilated place. Keep in properly labeled containers. Keep out of the reach of children. Keep away from food, drink and animal feeding stuffs. Keep away from heat. Keep away from sources of ignition - No smoking.
<b>Packaging material</b>	Do not reuse container.
<b>Incompatible materials</b>	Strong acids.

## Section 8. Exposure controls/personal protection

### Controls parameters

#### Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Copper hydroxide 20427-59-2	TWA: 1 mg/m <sup>3</sup> Cu dust and mist	-	IDLH: 100 mg/m <sup>3</sup> Cu dust and mist TWA: 1 mg/m <sup>3</sup> Cu dust and mist
Mancozeb 8018-01-7	-	Ceiling: 5 mg/m <sup>3</sup> Mn	IDLH: 500 mg/m <sup>3</sup> Mn TWA: 1 mg/m <sup>3</sup> Mn STEL: 3 mg/m <sup>3</sup> Mn
Bentonite 1302-78-9	TWA: 1 mg/m <sup>3</sup> respirable fraction	-	-
Zinc oxide 1314-13-2	STEL: 10 mg/m <sup>3</sup> respirable fraction TWA: 2 mg/m <sup>3</sup> respirable fraction	TWA: 5 mg/m <sup>3</sup> fume TWA: 15 mg/m <sup>3</sup> total dust TWA: 5 mg/m <sup>3</sup> respirable fraction	IDLH: 500 mg/m <sup>3</sup> Ceiling: 15 mg/m <sup>3</sup> dust TWA: 5 mg/m <sup>3</sup> dust and fume STEL: 10 mg/m <sup>3</sup> fume
Quartz 14808-60-7	TWA: 0.025 mg/m <sup>3</sup> respirable fraction	: (30)/(%SiO <sub>2</sub> + 2) mg/m <sup>3</sup> TWA total dust : (250)/(%SiO <sub>2</sub> + 5) mppcf TWA respirable fraction : (10)/(%SiO <sub>2</sub> + 2) mg/m <sup>3</sup> TWA respirable fraction	IDLH: 50 mg/m <sup>3</sup> respirable dust TWA: 0.05 mg/m <sup>3</sup> respirable dust

NIOSH IDLH *Immediately Dangerous to Life or Health*

**Engineering Controls** Ensure adequate ventilation, especially in confined areas. Showers. Eyewash stations. Ventilation systems.

**Individual protection measures, such as personal protective equipment**

<b>Eye/face protection</b>	Wear safety glasses with side shields (or goggles). If splashes are likely to occur: Wear suitable face shield.
<b>Skin and body protection</b>	Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.
<b>Respiratory protection</b>	Ensure adequate ventilation, especially in confined areas. Respiratory protection. Any particulate respirator equipped with an N95, R95, or P95 filter (including N95, R95, and P95 filtering facepieces) except quarter-mask respirators. The following filters may also be used: N99, R99, P99, N100, R100, P100.
<b>General Hygiene Considerations</b>	When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Wash hands thoroughly after handling. Keep away from food, drink and animal feeding stuffs. Wash contaminated clothing before reuse.

**Section 9. Physical and chemical properties**

<b>Physical state</b>	Solid
<b>Appearance</b>	granules
<b>Color</b>	dark blue
<b>Odor</b>	Characteristic
<b>Odor Threshold</b>	No information available
<b>pH</b>	8.0-10.5 (1% solution)
<b>Melting point/range</b>	No information available
<b>Freezing point</b>	No information available
<b>Boiling point (760 mmHg)</b>	No information available
<b>Flash point</b>	No information available
<b>Evaporation Rate (Butyl Acetate =1)</b>	No information available
<b>Flammability (solid, gas)</b>	No information available
<b>Lower explosion limit</b>	No information available
<b>Upper explosion limit</b>	No information available
<b>Vapor Pressure</b>	0 mmHg @ 25 C
<b>Relative Vapor Density (air = 1)</b>	Not applicable
<b>Water solubility</b>	Slightly soluble
<b>Solubility in other solvents</b>	No information available
<b>Partition coefficient:</b>	No information available
<b>Auto-ignition temperature</b>	No information available
<b>Decomposition temperature</b>	No information available
<b>Kinematic viscosity</b>	No information available
<b>Dynamic viscosity</b>	No information available
<b>Explosive properties</b>	Not an explosive
<b>Oxidizing properties</b>	Not applicable



**Other Information**

Softening point No information available  
 Molecular weight No information available  
 VOC Content (%) No information available  
 Density No information available  
 Bulk density ~34 lb/cu ft

**Section 10. Stability and reactivity**

**Reactivity:** No data available  
**Chemical stability:** Stable under recommended storage conditions.  
**Possibility of hazardous reactions:** None under normal processing.  
**Conditions to avoid:** Storage near to reactive materials. Temperatures above 140 C / 284 F  
**Incompatible materials:** Strong acids.  
**Hazardous decomposition products:** Thermal decomposition can lead to release of irritating and toxic gases and vapors.

**Section 11. Toxicological information**

*Toxicological information appears in this section when such data are available.*

**Information on likely routes of exposure:**

**Acute toxicity**

Product	Result	Species	Dose
Junction	LD50 Oral	Rat	2535 mg/kg
	LD50 Dermal	Rabbit	> 5000 mg/kg
	LC50 inhalation	Rat	>1.266 mg/l air (4h)
	Eye Irritation	Rabbit	Corrosive
	Skin Irritation	Rabbit	Not an irritant
	Skin Sensitization	Guinea pig	May cause an allergic skin reaction

**Inhalation** Harmful by inhalation  
**Eye contact** Corrosive to the eyes and may cause severe damage including blindness.  
**Skin contact** Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.  
**Ingestion** Harmful if swallowed.



SDS

Junction Fungicide/Bactericide

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Copper hydroxide 20427-59-2	= 489 mg/kg (Rat)	> 2000 mg/kg (Rat)	= 0.5 mg/L (Rat) 4 h
Other ingredients	>40 g/kg (Rat)	-	-
Mancozeb 8018-01-7	= 5g/kg (Rat)	> 5 g/kg (Rabbit) > 10 g/kg (Rat)	-
Bentonite 1302-78-9	> 5000 mg/kg (Rat)	-	-
Zinc oxide 1314-13-2	> 5000 mg/kg (Rat)	-	-
Quartz 14808-60-7	= 500 mg/kg (Rat)	-	-

**Information on toxicological effects**

**Symptoms** May cause redness and tearing off the eyes. May result in permanent damage including blindness. May cause an allergic skin reaction.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Sensitization** May cause sensitization by skin contact.

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

**Carcinogenicity** The table below indicates whether each agency has listed any ingredients as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Zinc oxide 1314-13-2	-	-	Reasonable Anticipated	X
Quartz 14808-60-7	A2	Group 1	Known	X

**ACGIH (American Conference of Governmental Industrial Hygienists)**

A2 - Suspected Human Carcinogen

**IARC (International Agency for Research on Cancer)**

Group 1 - Carcinogenic to Humans

**NTP (National Toxicology Program)**

Known - Known Carcinogen

Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

**OSHA (Occupational Safety and Health Administration of the US Department of Labor)**

X – Present

**Reproductive toxicity** Product is or contains a chemical which is a known or suspected reproductive hazard.

**STOT - single exposure** Based on available data, the classification criteria are not met.

**STOT - repeated exposure** Based on available data, the classification criteria are not met.

**Chronic toxicity** Avoid repeated exposure. May cause adverse effects on the bone marrow and blood-forming system. May cause adverse liver effects.

**Target Organ Effects** Central nervous system, Eyes, Thyroid, kidney, blood, liver, Respiratory system, Skin.

**Other adverse effects** The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions: Fluid retention in lungs (pulmonary oedema), Lung effects, Inflammation, Chronic lung disease, Fibrosis, Thyroid effects, Liver effects, Kidney effects, Microcytic anemia, Spleen effects.





**Aspiration hazard** Based on available data, the classification criteria are not met.

**Numerical measures of toxicity – Product Information**

The following values are calculated based on chapter 3.1 of the GHS documents

ATEmix (oral)	953.00 mg/kg
ATEmix (dermal)	3,843.00 mg/kg
ATEmix (inhalation-dust/mist)	1.3 mg/l

**Section 12. Ecological information**

**Ecotoxicity**

*Very toxic to aquatic life with long lasting effects. This pesticide is toxic to fish and aquatic invertebrates and may contaminate water through runoff. This product has a potential for runoff for several months or more after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. For terrestrial uses, do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash-waters or rinsate. Drift and runoff may be hazardous to aquatic organisms in waters adjacent to treated areas.*

22.5 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Copper hydroxide 20427-59-2	0.00939: 72 h <i>Pseudokirchneriella subcapitata</i> mg/L EC50	0.135: 96 h <i>Oncorhynchus mykiss</i> (rainbow trout) mg/L LC50	0.0422: 48 h <i>Daphnia magna</i> mg/L EC50
Mancozeb 8018-01-7		1: 48 h <i>Lepomis macrochirus</i> mg/L LC50	
Bentonite 1302-78-9		19000: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 static 8.0 - 19.0: 96 h <i>Salmo gairdneri</i> g/L LC50	

**Persistence and degradability** Not readily biodegradable.

**Bioaccumulation** Not likely to bioaccumulate.

**Other adverse effects** This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT)

**Section 13. Disposal considerations**

**Waste treatment methods**

**Disposal of wastes** Pesticide wastes may be acutely hazardous. Improper disposal is a violation of federal law. Disposal should be in accordance with applicable regional, national and local laws and regulations. Contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance on proper disposal of waste product.

**Contaminated packaging** Disposal should be in accordance with applicable regional, national and local laws and regulations. Consult product label for additional information. Do not reuse container.



Chemical Name	California Hazardous Waste Status
Copper hydroxide 20427-59-2	Toxic
Mancozeb 8018-01-7	Toxic
Zinc oxide 1314-13-2	Toxic

## Section 14. Transport information

	DOT	IATA	IMDG
UN/ID no	UN3077	UN3077	UN3077
Proper Shipping name	Environmentally hazardous substance, solid, n.o.s. (Mancozeb)	Environmentally hazardous substance, solid, n.o.s. (Mancozeb)	Environmentally hazardous substance, solid, n.o.s. (Mancozeb)
Hazard Class	9	9	9
Packing Group	III	III	III
ERG Code/EMS-No	-	9L	F-A, S-F
Special Provisions	-	A97, A158, A179, A197	274, 335, 966, 967
Description	UN3077, Environmentally hazardous substance, solid, n.o.s. (Mancozeb), 9, III; Marine Pollutant	UN3077, Environmentally hazardous substance, solid, n.o.s. (Mancozeb, Copper hydroxide), 9, III	UN3077, Environmentally hazardous substance, solid, n.o.s. (Mancozeb, Copper hydroxide), 9, III; Marine Pollutant
Other	Not regulated (If shipped in NON BULK packaging by ground transport)		

## Section 15. Regulatory information

### US Federal Regulations

#### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 – Threshold Values %
Copper hydroxide - 20427-59-2	1.0
Mancozeb - 8018-01-7	1.0
Zinc oxide - 1314-13-2	1.0



**SARA 311/312 Hazard Categories**

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

**CWA (Clean Water Act)**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Copper hydroxide 20427-59-2	-	X	-	-
Mancozeb 8018-01-7	-	X	-	-
Zinc oxide 1314-13-2	-	X	-	-

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

**US State Regulations**

**California Proposition 64**

This product contains the following Proposition 65 chemicals

Chemical Name	California Proposition 65
Mancozeb - 8018-01-7	Carcinogen
Quartz - 14808-60-7	Carcinogen

**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Copper hydroxide 20427-59-2	X	-	X
Mancozeb 8018-01-7	X	-	X
Zinc oxide 1314-13-2	X	X	X
Quartz 14808-60-7	X	X	X



**U.S. EPA Label Information**

EPA Pesticide Registration Number 91411-7-70051

**EPA Statement**

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

**Difference between SDS and EPA Pesticide label**

DANGER: Corrosive. Causes irreversible eye damage. Harmful if swallowed or inhaled. Do not get in eyes or clothing. Avoid inhaling dust or spray mist. Prolonged or frequently repeated dermal contact may cause allergic reactions in some individuals.

**Section 16. Other information**

HMIS:

HEALTH	3*
FLAMMABILITY	1
REACTIVITY	0

NFPA:



\*Chronic Health Hazard

**History**

**Date of issue mm/dd/yyyy** : 05/05/2020  
**Date of previous issue** : newly issued  
**Version** : 1.0

**Notice to reader**

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.