

**1. Identification**
**Product identifier**

Product name Solan MZ Potato ST Fungicide

PCP No. 29377

**Recommended use of the chemical and restrictions on use**

Application For potato seed piece treatment according to label directions

**Details of the supplier of the safety data sheet**

 Company Belchim Crop Protection Canada, Inc.  
 104 Cooper Drive, Unit 3  
 Guelph, ON  
 N1C 0A4  
[www.belchimcanada.com](http://www.belchimcanada.com)  
 (519) 826-7878  
 Emergency Information:  
 In case of emergency involving a poisoning, major spill, or fire call 1-866-336-2983

**2. Hazard(s) identification**
**Classification of the substance or mixture**

Physical hazards Slipping hazard. May form explosive dust-air mixture.

Health hazards May cause allergic skin reaction. May cause eye irritation. May be harmful if inhaled. May cause respiratory tract irritation.

Environmental hazards Highly toxic to fish and/or other aquatic organisms.

**Label elements**

 Precautionary statements P102 Keep out of reach of children.  
 P280 Wear protective gloves/protective clothing.  
 P302+P352 If on skin: Wash with plenty of water.  
 P321 Specific treatment (see medical advice on this label).  
 P362+P364 Take off contaminated clothing and wash it before reuse.  
 P501 Dispose of contents/container in accordance with local regulations.

**3. Composition/information on ingredients**

 Mixtures Mancozeb (CAS No. 8018-01-7): 16%  
 Dolomitic limestone (CAS No. Mixture): 40 – 60%  
 Crystalline silica – Quartz (CAS No. 14808-60-7): <1%

**4. First-aid measures**
**Description of first aid measures**

 Inhalation Move affected person to fresh air at once. Call 911 immediately for medical assistance. Only if breathing stops, provide artificial respiration. Give cardiopulmonary resuscitation (CPR) if there is no breathing and no pulse.
   
 Ingestion Immediately call 911 for medical assistance. If person is alert and not convulsing, rinse mouth out and give 1 cup of water to dilute material. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in vomit, rinse mouth and administer more water.
   
 Skin Contact Remove contaminated clothing immediately. Wash skin thoroughly with soap and water. Continue to rinse for at least 15 minutes. Get medical attention if irritation persists.
   
 Eye contact Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention if irritation persists. Consult a physician for specific advice.

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

General information Acute exposure: May cause irritation to eyes, skin, and respiratory tract. Crystalline silica is a possible human carcinogen. Moisture and elevated temperatures may

cause decomposition of mancozeb resulting in toxic fumes.  
 Chronic exposure: Repeated exposure to mancozeb at high doses affects the thyroid, liver and nervous systems and causes hind leg paralysis in test animals.

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

**Notes for the doctor** No specific recommendations. Treat symptomatically.

**5. Fire-fighting measures**
**Extinguishing media**

**Suitable extinguishing media** Extinguish with the following media: for large fires, use aqueous film forming foam or water in the form of a fog. For small fires, use carbon dioxide or dry chemical.

**Special hazards arising from the substance or mixture**

**Hazardous combustion products** Thermal decomposition may produce toxic fumes of hydrogen sulphide, carbon disulphide and oxides of carbon, nitrogen, and Sulphur. Dusts at sufficient concentrations can form explosive mixtures with air.

**Advice for firefighters**

**Protective actions during firefighting** Keep up-wind to avoid fumes. Use minimum amount of water. Keep run-off water out of sewers and watercourses. Dike for water control.

**Special protective equipment for firefighters** Wear self-contained breathing apparatus and impervious clothing.

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

**Personal precautions** Wear protective clothing as described in Section 8 of this safety data sheet. Provide adequate ventilation.

**Environmental precautions**

**Environmental precautions** Avoid spillage or runoff entering drains, sewers or watercourses.

**Methods and material for containment and cleaning up**

**Methods for cleaning up** Collect spilled material, contaminated soil/water, and absorbent and place in suitable waste disposal containers and seal securely. For release on land, wash hard surfaces with detergent and water then absorb with suitable absorbent. For water, utilized damming and/or water diversion to minimize spread of contamination. Notify applicable government authority if release is reportable or could adversely affect the environment.

**Reference to other sections** For waste disposal, see section 13.

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

**Usage precautions** Provide adequate ventilation. Avoid breathing dusts, and contact with eyes, skin and clothing. Wear protective clothing as described in Section 8 of this safety data sheet. Handle open container with care. If clothing becomes contaminated, wash thoroughly before re-use

**Advice on general occupational hygiene** When using, do not eat, drink or smoke. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet.


**Conditions for safe storage, including any incompatibilities**

**Storage precautions** Store in tightly-closed, original container in a dry, cool and well-ventilated place. Ideal storage temperature is 10 – 30°C. Do not expose product to temperatures above 40°C. Keep away from food, drink and animal feeding stuffs. Keep out of the reach of children and pets.  
 Keep away from heat, sparks, flames and moisture. Do not allow product to become wet or overheated during storage as product may decompose resulting in toxic fumes and potential fire.

**Specific end uses(s)**

**Specific end uses(s)** The identified uses for this product are detailed in Section 1.2.

### 8. Exposure Controls/Personal Protection

<b>Ingredient comments</b>	Mancozeb: Not established: OSHA PELs, ACGIH TLVs OSHA Dolomitic limestone: 10 mg/m <sup>3</sup> ACGIH TLV Crystalline silica – Quartz: 10 mg/m <sup>3</sup> ACGIH TLV OSHA = Occupational Safety and Health Administration. ACGIH = American Conference of Governmental Industrial Hygienists. PEL = Permissible Exposure Limit. TLV = Threshold Limit Value.
<b>Exposure controls</b>	
<b>Protective equipment</b>	
<b>Appropriate engineering controls</b>	Provide adequate general and local exhaust ventilation.
<b>Eye/face protection</b>	Use chemical safety goggles when there is a potential for eye contact.
<b>Hand protection</b>	Wear chemical-resistant gloves.
<b>Other skin and body protection</b>	Wear appropriate clothing (long sleeved shirt, pants, shoes and socks.) to prevent from skin and body contact
<b>Hygiene measures</b>	Promptly remove any clothing that becomes contaminated. Wash promptly if skin becomes contaminated. Wash hands at the end of each work shift and before eating, smoking and using the toilet. Do not eat, drink or smoke when using this product.
<b>Respiratory protection</b>	Respiratory protection is required if adequate ventilation is not available.

### 9. Physical and Chemical Properties

#### Information on basic physical and chemical properties

<b>Appearance</b>	Powder
<b>Color</b>	Tan
<b>Odor</b>	Musty
<b>Odor threshold</b>	Not available.
<b>pH</b>	6.5
<b>Melting point</b>	Not available.
<b>Initial boiling point and range</b>	Not available.
<b>Flash point</b>	Not available.
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	Not available.
<b>Vapour pressure</b>	Not available.
<b>Vapour density</b>	Not available.
<b>Bulk density</b>	44 g/100 mL
<b>Solubility(ies)</b>	Insoluble (water) Not available (other)
<b>Partition coefficient</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition Temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Explosive properties</b>	Not explosive.
<b>Oxidising properties</b>	Not available.

**10. Stability and reactivity**

<b>Reactivity</b>	Not available.
<b>Stability</b>	Stable at normal ambient temperatures and storage conditions.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization will not occur.
<b>Conditions to avoid</b>	Keep away from elevated temperatures, heat, and sources of ignition. Avoid moisture and humidity in storage.
<b>Materials to avoid</b>	Strong oxidizing and reducing agents, acids, and moisture.
<b>Hazardous decomposition products</b>	Mancozeb decomposes at 192°C to 204°C. Decomposition generates toxic fumes of hydrogen sulphide, carbon disulphide and oxides of carbon, nitrogen and sulphur. Elevated temperatures or moisture may cause the product to decompose, resulting in toxic fumes and potential for fire.

**11. Toxicological information**
**Information on toxicological effects**
Acute toxicity – oral

**Mancozeb (oral LD<sub>50</sub>)** LD<sub>50</sub> >5000 mg/kg, rat; may cause irritation to the gastrointestinal tract

**Amorphous silicon dioxide (oral LD<sub>50</sub>)** LD<sub>50</sub> = 3160 mg/kg, rat

Acute toxicity – dermal

**Notes (dermal LD<sub>50</sub>)** LD<sub>50</sub> >5000 mg/kg, rabbit

Acute toxicity – inhalation

**Notes (inhalation LC<sub>50</sub>)** LC<sub>50</sub> >5.14 mg/l/4 hours, rat; high concentrations may cause irritation to the respiratory tract

Skin corrosion/irritation

**Animal data** Prolonged or repeated exposure may cause skin irritation

Serious eye damage/irritation

**Serious eye damage/irritation** Direct contact may cause moderate eye irritation

Respiratory sensitisation

**Respiratory sensitisation** Not available

Skin sensitisation

**Skin sensitisation** Mancozeb has been infrequently associated with sensitization in humans

Specific target organ toxicity - single exposure

**STOT - repeated exposure** No target organ toxicity.

Aspiration hazard

**Aspiration hazard** Not available.

**Chronic effects**

Repeated exposure to mancozeb at high doses affects the thyroid, liver, and nervous systems and causes hind leg paralysis in test animals. The thyroid and liver effects are due to its metabolism in small amounts to ethylenethiourea (ETU). The effects are reversible when exposure is brief or intermittent.

**Carcinogenicity**

Studies have indicated that ETU has caused thyroid effects and thyroid, pituitary and liver tumours in test animals.

**Mutagenicity**

There is no evidence that mancozeb or ETU has mutagenic potential

**Reproductive effects**

No reproductive effects have been indicated below adult toxic levels in two generation reproduction studies with mancozeb and ETU.

**Teratogenicity**

There is no evidence that this product has teratogenic potential below adult toxic levels.

**12. Ecological Information**
**Toxicity**
**Ecological information on ingredients –TGAJ (Mancozeb Technical)**

**Acute toxicity - fish** LC<sub>50</sub>, 96 hours: 5.1 mg TGAJ/L, *Cyprinus carpio* (Common carp)

**Acute toxicity - aquatic invertebrates** EC<sub>50</sub>, 48 hours: 4.23 mg TGAJ/L (*Daphnia magna*)

<b>Acute toxicity - aquatic plants</b>	ErC <sub>50</sub> , 24 - 72 hours: 0.15 mg TGAI/L, Algae
<b>Acute toxicity - terrestrial</b>	Acute contact toxicity: LD <sub>50</sub> , 48 hours: >100 µgTGAI/honeybee, <i>Apis mellifera</i> (Honeybee)
<b><u>Persistence and degradability – Mancozeb</u></b>	
<b>Persistence and degradability</b>	Mancozeb is expected in the soil environment to degrade within days to weeks but cannot be considered readily biodegradable based on stringent OECD test guidelines. However, material may still be biodegradable under environmental conditions.
<b>Hydrolysis</b>	DT <sub>50</sub> : 17 hours (pH 7.0)
<b>Photodegradation in water</b>	DT <sub>50</sub> : 0.5 d (Natural water)
<b>Aerobic soil metabolism</b>	No data
<b><u>Bioaccumulative potential</u></b>	
<b>Bioaccumulative potential</b>	Mancozeb has low potential to bioconcentrate.
<b>Partition coefficient</b>	1.33 (estimated)
<b><u>Mobility in soil</u></b>	
<b>Mobility</b>	Potential for mobility in soil is low (Koc between 500 and 2000).
<b><u>Results of PBT and vPvB assessment</u></b>	
<b>Results of PBT and vPvB assessment</b>	This product does not contain any substances classified as PBT or vPvB.
<b><u>Other adverse effects</u></b>	
<b>Other adverse effects</b>	Not known.

### 13. Disposal considerations

#### Container disposal

**Disposal methods** Non-refillable container. Do not reuse. Dispose of in a sanitary landfill or by other procedures approved by provincial and local authorities.

#### Waste treatment methods

**Disposal methods** Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Do not dispose of waste with normal garbage or to sewer systems.

### 14. Transport information

<b>General</b>	This product is not regulated under TDG for small or large container.
<b>Road transport notes</b>	Not regulated.
<b>Rail transport notes</b>	Not regulated.
<b>Sea transport notes</b>	Not regulated.
<b>Air transport notes</b>	Not regulated.
<b>UN Number</b>	UN3077
<b>UN proper shipping name</b>	Environmentally hazardous substance, solid, N.O.S.
<b>Transport hazard class(es)</b>	9
<b>IMDG subsidiary risk</b>	EMS Number: F-A, S-F Marine pollutant: Yes
<b>ICAO subsidiary risk</b>	Cargo/Passenger Packing Instruction: 956
<b>Packing group</b>	PG III
<b><u>Environmental hazards</u></b>	
<b>Environmentally Hazardous Substance</b>	Yes
<b>Special precautions for user</b>	Not applicable.
<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not applicable.

**15. Regulatory information**
**Registration No. 17042 Pest Control products Act.**

Read the label, authorized under the Pest Control Products Act, prior to using or handling the pest control product.

This chemical is a pest control product registered by Health Canada Pest Management Regulatory Agency and is subject to certain labelling requirements under the Pest Control Products Act. These requirements differ from the classification criteria and hazard information required for GHS-consistent safety data sheets. The following is the hazard information required on the pest control product label:

There are Canada-specific environmental requirements for handling, use, and disposal of this pest control product that are indicated on the label.

**CEPA – Domestic Substances List (DSL)**

All substances contained in this product are listed on the Canadian Domestic Substances List or are not required to be listed.

**Hazardous Products Act Information: CPR Compliance**

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the SDS contains all information required by the CPR.

**Hazardous Products Act Information: WHMIS Classification**

This product is exempt under WHMIS.

**National Fire Code of Canada**

Not applicable

**16. Other information**
**Hazard Rating System**

<b>NFPA</b>	Health: 2	Fire: 1	Reactivity: 0
<b>Revision date</b>	2019/06/18		

**Disclaimer:**

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