



Material Safety Data Sheet

LA3534
Solubor®

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Id: LA3534

Product Name: Solubor®

Synonyms: Disodium octaborate tetrahydrate.

Chemical Family: Inorganic borate.

Application: Agricultural micronutrient.

Distributed By:

Univar Canada Ltd.
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Prepared By: The Safety, Health and Environment Department of Univar Canada Ltd.

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® indicates trademark registered by Borax.

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	Percentage (W/W)	LD50s and LC50s Route & Species:
Disodium octaborate, tetrahydrate 12008-41-2	100	Oral LD50 (Rat) = 2 g/kg

Note: Other CAS# 12280-03-4.

3. HAZARDS IDENTIFICATION

Potential Acute Health Effects:

Eye Contact: Not expected to irritate eyes.

Skin Contact: Not expected to cause skin irritation. Unlikely to be absorbed through skin.

Inhalation: Inhalation of dust may irritate nose and throat.

Ingestion: Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts. Swallowing larger amounts may cause gastrointestinal symptoms.

4. FIRST AID MEASURES

Eye Contact: Wash eyes with water for a minimum of 30 minutes or until no evidence of the chemical remains. Seek immediate medical attention.

Skin Contact: No first aid should be needed.

Inhalation: Remove person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, get immediate medical attention.

Ingestion: Do NOT induce vomiting. Never give anything by mouth to an unconscious or convulsing person. Seek immediate medical attention. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs.

Notes to Physician: Observation only is required for adult ingestion in the range of 4-8 grams of product. For ingestion of larger amounts, maintain adequate kidney function and force fluids. Gastric lavage is recommended for symptomatic patients only. Hemodialysis should be reserved for massive acute ingestion or patients with renal failure. Boron analyses of urine or blood are only useful for documenting exposure and should not be used to evaluate severity of poisoning or to guide treatment.

5. FIRE FIGHTING MEASURES

Flash Point: None.

Flash Point Method: Not applicable.

Autoignition Temperature: Not available.

Flammable Limits in Air (%): Not Available.

Extinguishing Media: Use extinguishing media appropriate for surrounding fire.

Special Exposure Hazards: This product is a flame retardant.

Hazardous Decomposition/Combustion Materials (under fire conditions): Not available.

Special Protective Equipment: Fire fighters should wear full protective clothing, including self-contained breathing equipment.

NFPA RATINGS FOR THIS PRODUCT ARE: HEALTH 0, FLAMMABILITY 0, INSTABILITY 0

HMIS RATINGS FOR THIS PRODUCT ARE: HEALTH 1, FLAMMABILITY 0, REACTIVITY 0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautionary Measures: Wear appropriate protective equipment.

Environmental Precautionary Measures: Prevent entry into sewers or streams, dike if needed. Solubor is a water-soluble, white powder that may, at high concentrations, cause damage to trees or vegetation by root absorption.

Procedure for Clean Up: Scoop up or vacuum up and place in an appropriate closed container. Water spill: Where possible, remove any intact containers from the water. Advise local water authority that none of the affected water should be used for irrigation or for the abstraction of potable water until natural dilution returns the boron value to its natural environmental background level.

7. HANDLING AND STORAGE

Handling: No special handling required. To maintain package integrity and to minimize caking of the product, bags should be handled on a first-in, first-out basis. Good housekeeping procedures should be followed to minimize dust generation and accumulation.

Storage: Store in an area that is cool and dry. Protect against moisture. Store at ambient temperature. Store in accordance with good industrial practices.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls:

Localized ventilation should be used to control dust levels.

Respiratory Protection: If exposure exceeds occupational exposure limits, use an appropriate NIOSH approved respirator. In case of spill or leak resulting in unknown concentration, use a NIOSH approved supplied air respirator.

Gloves:

Gloves are not required for normal industrial exposures, but may be warranted if environment is excessively dusty.

Skin Protection: Skin contact should be prevented through the use of suitable protective clothing, gloves and footwear, selected for conditions of use and exposure potential. Consideration must be given both to durability as well as permeation resistance.

Eyes: Safety glasses with side shields.

Other Personal Protection Data: Ensure that eyewash stations and safety showers are proximal to the work-station location.

Ingredients	Exposure Limit - ACGIH	Exposure Limit - OSHA	Immediately Dangerous to Life or Health - IDLH
Disodium octaborate, tetrahydrate	Not available.	Not available.	Not Available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Crystalline Solid

Colour: White

Odour: Odourless

pH 8.3 (3% solution), 7.6 (10% solution)

Specific Gravity: Not Available.

Boiling Point: Not Available.

Freezing/Melting Point: 815°C / 1499°F

Vapour Pressure: Negligible @ 20C.

Vapour Density: Not Available.

% Volatile by Volume: Not Available.

Evaporation Rate: Not Available.

Solubility: 9.7% @ 20°C, 34.3% @ 50°C

VOCs: Not Available.

Viscosity: Not Available.

Molecular Weight: 412.52

Other: Not Available.

10. STABILITY AND REACTIVITY

Chemical Stability: Stable.

Hazardous Polymerization: Will not occur.

Conditions to Avoid: None known.

Materials to Avoid: Reaction with strong reducing agents, such as metal hydrides or alkali metals, will generate hydrogen gas, which could create an explosive hazard.

Hazardous Decomposition Products: Not available.

Additional Information:

No additional remark.

11. TOXICOLOGICAL INFORMATION

Principle Routes of Exposure

Ingestion: Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts. Swallowing larger amounts may cause gastrointestinal symptoms.

Skin Contact: Not expected to cause skin irritation. Unlikely to be absorbed through skin.

Inhalation: Inhalation of dust may irritate nose and throat.

Eye Contact: Not expected to irritate eyes.

Additional Information: Symptoms of accidental over-exposure to Solubor might include nausea, vomiting and diarrhea, with delayed effects of skin redness and peeling. Human epidemiological studies show no increase in pulmonary disease in occupational populations with chronic exposures to boric acid dust and sodium borate dust.

Acute Test of Product:

Acute Oral LD50: Not Available.

Acute Dermal LD50: Not Available.

Acute Inhalation LC50: Not Available.

Carcinogenicity:

Ingredients	IARC - Carcinogens	ACGIH - Carcinogens
Disodium octaborate, tetrahydrate	Not listed.	Not listed.

Carcinogenicity Comment: No additional information available.

Reproductive Toxicity/ Teratogenicity/ Embryotoxicity/ Mutagenicity: Animal ingestion studies in several species, at high doses, indicate that borates cause reproductive and developmental effects. A human study of occupational exposure to borate dust showed no adverse effect on reproduction.

Animal feeding studies in rat, mouse and dog, at high doses, have demonstrated effects on fertility and testes. Boric acid studies in rat, mouse and rabbit, at high doses, demonstrate developmental effects on the fetus, including fetal weight loss and minor skeletal variations. The doses administered were many times in excess of those to which humans would normally be exposed.

12. ECOLOGICAL INFORMATION

Ecotoxicological Information:

Ingredients	Ecotoxicity - Fish Species Data	Acute Crustaceans Toxicity:	Ecotoxicity - Freshwater Algae Data
Disodium octaborate, tetrahydrate	LC50 96 h (Limanda limanda) 350 mg/L	Not Available.	EC50 96 h Desmodesmus subspicatus 162 mg/L

Other Information:

Boron is an essential micronutrient for healthy growth of plants; however, it can be harmful to boron sensitive plants in high quantities. Care should be taken to minimize the amount of product released to the environment. Boron is naturally occurring and ubiquitous in the environment. Product decomposes in the environment to natural borate, is soluble in water and is leachable through normal soil.

13. DISPOSAL CONSIDERATIONS

Disposal of Waste Method: Disposal of all wastes must be done in accordance with municipal, provincial and federal regulations.

Contaminated Packaging: Empty containers should be recycled or disposed of through an approved waste management facility.

14. TRANSPORT INFORMATION

DOT (U.S.):

DOT Shipping Name: Not Regulated.

DOT Hazardous Class: Not Applicable.

DOT UN Number: Not Applicable.

DOT Packing Group: Not Applicable.

DOT Reportable Quantity (lbs): Not Available.

Note: No additional remark.

Marine Pollutant: No.

TDG (Canada):

14. TRANSPORT INFORMATION

TDG Shipping Name: Not Regulated.

Hazard Class: Not Applicable.

UN Number: Not Applicable.

Packing Group: Not Applicable.

Note: No additional remark.

Marine Pollutant: No.

15. REGULATORY INFORMATION

U.S. TSCA Inventory Status: All components of this product are either on the Toxic Substances Control Act (TSCA) Inventory List or exempt.

Canadian DSL Inventory Status: All components of this product are either on the Domestic Substances List (DSL), the Non-Domestic Substances List (NDSL) or exempt.

Note: Not available.

U.S. Regulatory Rules

Ingredients	CERCLA/SARA - Section 302:	SARA (311, 312) Hazard Class:	CERCLA/SARA - Section 313:
Disodium octaborate, tetrahydrate	Not Listed.	Not Listed.	Not Listed.

California Proposition 65: Not Listed.

MA Right to Know List: Not Listed.

New Jersey Right-to-Know List: Not Listed.

Pennsylvania Right to Know List: Not Listed.

WHMIS Hazardous Class:

D2A VERY TOXIC MATERIALS



16. OTHER INFORMATION

Additional Information:

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

Disclaimer:

NOTICE TO READER:

Univar, expressly disclaims all express or implied warranties of merchantability and fitness for a particular purpose, with respect to the product or information provided herein, and shall under no circumstances be liable for incidental or consequential damages.

Do not use ingredient information and/or ingredient percentages in this MSDS as a product specification. For product specification information refer to a Product Specification Sheet and/or a Certificate of Analysis. These can be obtained from your local Univar Sales Office.

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*****END OF MSDS*****