

PRODUCT NAME:
Disodium Octaborate Tetrahydrate Treated Wood

1. PRODUCT AND COMPANY IDENTIFICATION

Disodium Octaborate Tetrahydrate
Manufactured By:
 BoratesPlus Inc.
 1101 S. Orange Blossom Trail
 Apopka, FL 32703
 Tel: 440-263-7305

2. HAZARDS IDENTIFICATION

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| OSHA Hazard Classification: | Wood dust is classified as: carcinogenic, possible sensitizer, mild skin irritant, possible respiratory irritant., WARNING! MAY FORM COMBUSTIBLE DUST CONCENTRATIONS IN AIR (DURING PROCESSING) |
|-----------------------------|--|

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|--------------------------------|--|
| Routes of Entry: | Inhalation, skin, eyes, ingestion |
| Chemical Interactions: | No known or reported interactions. |
| Medical Conditions Aggravated: | Inhalation of the dust from this material at concentrations above the TLV can aggravate pre-existing upper respiratory and lung diseases such as bronchitis, emphysema and asthma., Skin diseases including eczema and sensitization |

Human Threshold Response Data

Odor Threshold Not established for product.

Irritation Threshold Not established for product.

National Fire Protection Association Classifications

| <u>Hazard Ratings :</u> | <u>Health</u> | <u>Flammability</u> | <u>Physical / Instability</u> |
|-------------------------|---------------|---------------------|-------------------------------|
| NFPA | 2 | 1 | 0 |

Immediate (Acute) Health Effects

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|------------------------------|---|
| Inhalation Toxicity: | Airborne treated or untreated wood dust may cause nose, throat or lung irritation. |
| Skin Toxicity: | Handling of wood may result in skin exposure to splinters. Prolonged and/or repeated contact with treated or untreated wood dust may result in mild irritation. |
| Eye Toxicity: | Treated or untreated wood dust may cause mechanical irritation. |
| Ingestion Toxicity: | Not expected to be a route of exposure in normal industrial use. |
| Acute Target Organ Toxicity: | Skin, Eyes, Respiratory Tract |

Prolonged (Chronic) Health Effects

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| Carcinogenicity: | IARC has classified untreated hardwood and hardwood/softwood mix wood dust as a Group 1 human carcinogen. The wood dust classification is based primarily on IARC's evaluation of increased risk in the occurrence of adenocarcinomas of the nasal cavities and paranasal sinuses associated with occupational exposures to untreated wood dust. NTP has classified all untreated wood dust as a carcinogen. |
| Reproductive and Developmental Toxicity: | Not known or reported to cause reproductive or developmental toxicity. |
| Inhalation: | May cause respiratory sensitization and/or irritation. |
| Skin Contact: | Treated or untreated wood dust, depending on the species, may cause dermatitis on prolonged, repetitive contact. |
| Ingestion: | Not expected to be a route of exposure in normal industrial use. |
| Sensitization: | Various species of untreated wood dust can elicit an allergic respiratory response in sensitized persons. Various species of untreated wood dust can elicit an allergic type skin irritation in sensitized persons. |
| Chronic Target Organ Toxicity: | Respiratory Tract, Skin, Eyes |
| Supplemental Health Hazard Information : | No additional health information available. |

3. COMPOSITION / INFORMATION ON INGREDIENTS

| <u>CAS OR CHEMICAL NAME</u> | <u>CAS #</u> | <u>% RANGE</u> |
|--|--|----------------|
| Wood Dust | Not Assigned | 95 - 99.75 |
| Formaldehyde (by-product of the untreated plywood article) | 50-00-0 (Only applies to plywood products) | 0 - 0.1 |
| Disodium Octaborate Tetrahydrate | 12008-41-2 | 0.1 – 5.0 |

4. FIRST AID MEASURES

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| Inhalation: | IF INHALED: Remove individual to fresh air. Seek medical attention if breathing becomes difficult or if respiratory irritation develops. If not breathing, give artificial respiration. Call for medical assistance. |
| Skin Contact: | IF ON SKIN: Flush skin with water for 15 minutes. Take off all contaminated clothing. Seek medical attention if irritation develops. |
| Eye Contact: | IF IN EYES: Flush eyes with plenty of water for at least 15 minutes. Seek medical attention if irritation develops. |
| Ingestion: | IF SWALLOWED: Immediately drink water to dilute. Seek medical attention if symptoms develop. Never give anything by mouth to an unconscious person. |

5. FIRE FIGHTING MEASURES

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| Flammability Summary (OSHA): | Product is not known to be flammable, combustible, pyrophoric or explosive. |
| Fire / Explosion Hazards: | 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. |

Extinguishing Media: Water spray
Fire Fighting Instructions: In case of fire, use normal fire-fighting equipment and the personal protective equipment recommended in Section 8 to include a NIOSH approved self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal Protection for Emergency Situations: No extra protection required beyond that listed in Section 8. In case of fire, use normal fire fighting equipment.

Spill Mitigation Procedures

Air Release: Hazardous concentrations in air may be found in local spill area and immediately downwind. Contain all solids for treatment or disposal.

Water Release: This material is insoluble in water. Notify all downstream users of possible contamination. Contain all solids for treatment or disposal.

Land Release: Avoid dust generation. Contain all solids for treatment or disposal.

Additional Spill Information : Remove all sources of ignition. Utilize emergency response personal protection equipment prior to the start of any response. Evacuate all non-essential personnel. 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. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Nonsparking tools should be used. Dispose of spill residues per guidelines under Section 13, Disposal Consideration.

7. HANDLING AND STORAGE

- Handling:** DO NOT BURN TREATED WOOD. Whenever possible, sawing or machining treated or untreated wood should be performed outdoors to avoid accumulations of airborne wood dust. Wear gloves, eye protection, dust mask and protective clothing. Do not use treated chips or sawdust as mulch. Wash hands thoroughly before eating, drinking, using tobacco products, and/or using restrooms. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Minimize dust generation and accumulation. Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, for safe handling. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces.
- Storage:** Keep away from unguarded flame, sparks, and heat sources. Protect from physical damage. Maintain good housekeeping.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- Ventilation:** Whenever possible, sawing or machining treated or untreated wood should be performed outdoors or in well ventilated areas to avoid accumulations of airborne wood dust. Ventilation should be sufficient to maintain exposures below the recommended exposure limits.

Protective Equipment for Routine Use of Product

- Respiratory Protection :** When sawing or cutting treated or untreated wood, wear a NIOSH approved P95 or P100 Particulate filter respirator. FOR PLYWOOD PRODUCTS ONLY: Wear a NIOSH approved P100 particulate filter respirator, and if formaldehyde vapor levels exceed the recommended exposure limits, wearing a NIOSH approved respirator is required. Formaldehyde is a by-product of the untreated plywood article and not the result of this treatment.
- Respirator Type :** For plywood products only: A NIOSH approved full-face air purifying respirator with combination formaldehyde/organic vapor cartridge and a P100 filter. Air purifying respirators should not be used in oxygen deficient or IDLH atmospheres or if exposure concentrations exceed ten (10) times the published limit.

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Skin Protection : Wear leather gloves. Wear long sleeve shirt, pants, and steel-toed shoes when handling treated or untreated wood.
Eye Protection: Use safety glasses with side shields or chemical goggles when sawing or cutting treated or untreated wood.
Protective Clothing Type: Wear leather gloves.
General Protective Measures: 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. If required, use wet methods and/or explosion suppression systems to reduce generation of dust. Local exhaust ventilation is recommended when sawing, sanding, or machining this product. General dilution ventilation is recommended in processing and storage areas.

Exposure Limit Data

| <u>CHEMICAL NAME</u> | <u>CAS #</u> | <u>Name of Limit</u> | <u>Exposure</u> |
|--|--------------|----------------------|---|
| Wood Dust | | ZUS_OSHAZ3 | 15.0 mg/m ³ PEL Total dust (as nuisance dust) |
| Wood Dust | | ZUS_OSHAZ3 | 5.0 mg/m ³ PEL Respirable fraction. (as nuisance dust) |
| Wood Dust | | ZUS_ACGIH | 0.5 mg/m ³ TWA inhalable fraction (Western Red Cedar) |
| Wood Dust | | ZUS_ACGIH | 1.0 mg/m ³ TWA inhalable fraction (All other species) |
| Formaldehyde (by-product of the untreated plywood article) | 50-00-0 | ZUS_ACGIH | 0.3 ppm C |
| Formaldehyde (by-product of the untreated plywood article) | 50-00-0 | ZUS_OSHAP2 | 0.75 ppm TWA Sec. 1910.1048 Formaldehyde., see 1910.1048 |
| Formaldehyde (by-product of the untreated plywood article) | 50-00-0 | ZUS_OSHAP2 | 2 ppm STEL Sec. 1910.1048 Formaldehyde., see 1910.1048 |
| Formaldehyde (by-product of the untreated plywood article) | 50-00-0 | ZUS_OSHAP1 | 0.75 ppm TWA |
| Formaldehyde (by-product of the untreated plywood article) | 50-00-0 | ZUS_OSHAP1 | 2 ppm STEL |
| Formaldehyde (by-product of the untreated plywood article) | 50-00-0 | ZUS_OSHAP1 | |
| Formaldehyde (by-product of the untreated plywood article) | 50-00-0 | ZUS_OSHAP2 | |

9. PHYSICAL AND CHEMICAL PROPERTIES

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|--------------------|-------------------------|
| Physical State: | Solid |
| Form | Solid |
| Color: | Blue (due to added dye) |
| Odor: | None |
| Molecular Weight: | None established |
| Specific Gravity : | Not applicable |
| pH : | Not applicable |
| Boiling Point: | Not applicable |
| Freezing Point: | Not applicable |

10. STABILITY AND REACTIVITY

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| Stability and Reactivity Summary: | Stable under normal conditions. Product will not undergo hazardous polymerization. |
| Conditions to Avoid: | Sparks, open flame, other ignition sources, and elevated temperatures., Contact with incompatible substances |
| Chemical Incompatibility: | strong acids, oxidizers |
| Hazardous Decomposition Products: | During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. |
| Decomposition Temperature: | No data |

11. TOXICOLOGICAL INFORMATION

Product Animal Toxicity (Based on Boric Acid Data)

Ingestion (Acute Oral Toxicity): Low acute oral toxicity; LD₅₀ in rats is 3500-4100 mg/kg of body weight.

Skin (Acute Dermal Toxicity): Low acute dermal toxicity; LD₅₀ in rabbits is greater than 2000 mg/kg of body weight. Boric Acid is not absorbed through intact skin.

Primary Skin Irritation Index: 0 (zero) Boric Acid is non-corrosive.

Eye: Draize test in rabbits produced mild eye irritation effects. Fifty years of occupational exposure history show no indication of human eye injury from exposure to Boric Acid.

Inhalation: Human epidemiological studies show no increase in pulmonary disease in occupational populations with chronic exposure to Boric Acid dust.

Acid in mice at feed doses of 2500 and 5000 ppm in the diet. No mutagenic activity was observed for Boric Acid in a recent battery of four short-term mutagen

12. ECOLOGICAL INFORMATION

Overview: No aquatic toxicity data is available for this product.

Ecological Toxicity Values for: **DISODIUM OCTABORATE TETRAHYDRATE**

Fish Toxicity:

24 day LC₅₀=150.0 mg B/L

36 day NOEC-LOEC=0.75-1 mg B/L

13. DISPOSAL CONSIDERATIONS

CARE MUST BE TAKEN TO PREVENT ENVIRONMENTAL CONTAMINATION FROM THE USE OF THE MATERIAL. THE USER OF THE MATERIAL HAS THE RESPONSIBILITY TO DISPOSE OF UNUSED MATERIAL, RESIDUES AND CONTAINERS IN COMPLIANCE WITH ALL RELEVANT LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS REGARDING TREATMENT, STORAGE AND DISPOSAL FOR HAZARDOUS AND NONHAZARDOUS WASTES.

Waste Disposal Summary : If this product becomes a waste, it will be a nonhazardous waste according to U.S. RCRA regulations. Dispose of in accordance with all Local, State, Federal, and Provincial Environmental Regulations.

Disposal Methods : Dispose of in a permitted industrial waste landfill following Federal, State Local, or Provincial regulations.

Potential US EPA Waste Codes : Not applicable

14. TRANSPORT INFORMATION

Land (US DOT): NOT REGULATED AS A DOT HAZARDOUS MATERIAL
Water (IMDG): NOT REGULATED AS A HAZARDOUS MATERIAL,

Air (IATA): NOT REGULATED AS A HAZARDOUS MATERIAL,
Emergency Response Guide Number: Not applicable
Flash Point: No data.

15. REGULATORY INFORMATION

UNITED STATES:

Toxic Substances Control Act (TSCA): This item is exempt from TSCA and FIFRA under the treated article exemption per 40 CFR 152.25(a).
EPA Pesticide Registration Number: None established
FIFRA Listing of Pesticide Chemicals (40 CFR 180): Not registered in the US under FIFRA.

Superfund Amendments and Reauthorization Act (SARA) Title III:

Hazard Categories Sections 311 / 312 (40 CFR 370.2):
Health Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard
Physical None

Emergency Planning & Community Right to Know (40 CFR 355, App. A):

Extremely Hazardous Substance Section 302 - Threshold Planning Quantity:

ZUS_SAR302 TPQ (threshold planning quantity) None established

Reportable Quantity (49 CFR 172.101, Appendix):

ZUS_CERCLA Reportable quantity None established
ZUS_SAR302 Reportable quantity None established

Clean Air Act Toxic ARP Section 112r:

CAA 112R None established

Clean Air Act Socmi:

HON SOC None established

Clean Air Act VOC Section 111:

CAA 111 None established

Clean Air Act Haz. Air Pollutants Section 112:

CAA AP None established

California Proposition 65:

| CAS # | COMPONENT NAME |
|-------|----------------|
| | Wood Dust |

ZUSCA_P65

None established

California Proposition 65. Safe drinking water and toxic enforcement act.
CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF
1986 - Proposition 65: "WARNING: Wood Dust is known to the State of
California to cause cancer and/or birth defects or other reproductive harm."

16. OTHER INFORMATION

MSDS REVISION STATUS : Revised to meet the ANSI standard of 16 sections
SECTIONS REVISED: 15
Major References : Available upon request.

THIS MATERIAL SAFETY DATA SHEET (MSDS) HAS BEEN PREPARED IN COMPLIANCE WITH THE FEDERAL OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200. THE INFORMATION IN THIS MSDS SHOULD BE PROVIDED TO ALL WHO WILL USE, HANDLE, STORE, TRANSPORT, OR OTHERWISE BE EXPOSED TO THIS PRODUCT. THIS INFORMATION HAS BEEN PREPARED FOR THE GUIDANCE OF PLANT ENGINEERING, OPERATIONS AND MANAGEMENT AND FOR PERSONS WORKING WITH OR HANDLING THIS PRODUCT. THE MANUFACTURER BELIEVES THIS INFORMATION TO BE RELIABLE AND UP TO DATE AS OF THE DATE OF PUBLICATION BUT, MAKES NO WARRANTY THAT IT IS.