


**SAFETY DATA SHEET  
NFD-MB-SS**

**Section 1: Identification**

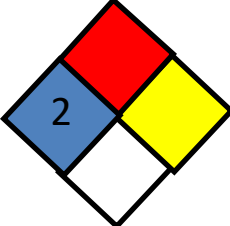
<b>Product Identifier</b>		
<b>Product Name</b>	NFD-MB-SS ®	
<b>Relevant identified uses of the substance or mixture and uses advised against</b>		
<b>Recommended use</b>	<b>Hazard Communication &amp; Compliance</b>	
<b>Details of the supplier of the safety data sheet</b>		
<b>Manufacturer</b>		
	APEX Advanced Technologies, LLC 4857-A West 130 <sup>th</sup> Street Cleveland OH 44135 United States Telephone (General) 615-459-0064	
<b>Emergency telephone number</b>		
<b>Manufacturer</b>	APEX Advanced Technologies, LLC	(216) 898-1595
	CHEMTREC	(800) 424-9300

**Section 2: Hazard Identification**

<b>United States (US)</b>		
<b>According to OSHA 29 CFR 1910.1200 HCS</b>	NFD-MB-SS	
<b>Classification of the substance or mixture</b>		
<b>OSHA HCS 2012</b>	<ul style="list-style-type: none"> <li>H316: Causes mild skin irritation</li> </ul>	
<b>Label elements</b>		
<b>OSHA HCS 2012</b>		
	<b>DANGER</b>	
		
<b>Hazard statements</b>	<ul style="list-style-type: none"> <li>H316: Causes mild skin irritation</li> <li>H320: May cause eye irritation.</li> <li>H335: May cause respiratory irritation.</li> <li>H360: May damage fertility or the unborn child</li> </ul>	

<b>Precautionary Statements</b>	
<b>Prevention</b>	
	<ul style="list-style-type: none"> <li>P201: Obtain special instructions before use</li> <li>P202: Do not handle until all safety precautions have been read and understood.</li> </ul>

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	<ul style="list-style-type: none"> <li>P210: Keep away from heat, sparks, open flames and/or hot surfaces. - No smoking.</li> </ul>
	<ul style="list-style-type: none"> <li>P280: Wear protective gloves/protective clothing/eye protection/face protection.</li> </ul>
	<ul style="list-style-type: none"> <li>P235: Keep cool.</li> </ul>
	<ul style="list-style-type: none"> <li>P261: Avoid breathing dust. [As modified by IV ATP]</li> </ul>
	<ul style="list-style-type: none"> <li>P264: Wash hands thoroughly after handling</li> </ul>
<b>Response</b>	<ul style="list-style-type: none"> <li></li> </ul>
	<ul style="list-style-type: none"> <li>P370+P378: In case of fire: Use appropriate media for extinction.</li> </ul>
	<ul style="list-style-type: none"> <li>P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.</li> </ul>
	<ul style="list-style-type: none"> <li>P312: Call a POISON CENTER or doctor/physician if you feel unwell.</li> </ul>
	<ul style="list-style-type: none"> <li>P353: Rinse skin with water/shower.</li> </ul>
	<ul style="list-style-type: none"> <li>P332+P313: If skin irritation occurs: Get medical advice/attention.</li> </ul>
<b>Storage/Disposal</b>	<ul style="list-style-type: none"> <li></li> </ul>
	<ul style="list-style-type: none"> <li>P402+404: Store in a dry place. Store in a closed container</li> </ul>
	<ul style="list-style-type: none"> <li></li> </ul>
	<ul style="list-style-type: none"> <li>P403: Store in a well ventilated place.</li> </ul>
<b>Other information</b>	
NFPA	

**Section 3 - Composition/Information on Ingredients**

<b>Substances</b>		
	Material does not meet the criteria of a substance.	
<b>Mixtures</b>		
<b>Component</b>	<b>CAS #</b>	<b>% by Wt.</b>
Boron Oxide	1303-86-2	40% (max)
Polysaccharide	11138-66-2	15% (max.)
Solid saturate hydrocarbons	68153-22-0	30% (max.)
Stearic wax (mixture)	110-30-5	25% (max.)

**Section 4: First-Aid Measures**

<b>Description of first aid measures</b>	Call for emergency medical care. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.
Inhalation	Move patient to fresh air. Seek medical attention if respiratory irritation develops or if breathing becomes difficult.

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Skin	Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Wash exposed area thoroughly with soap and water. Seek medical attention if irritation develops.
Eye	Exposed eyes should be irrigated with water for at least 20 minutes. Seek medical attention if irritation develops.
Ingestion	If swallowed, give 3-4 glasses of water but do not induce vomiting. If vomiting does occur, give fluids again. Get medical attention to determine whether vomiting or evacuation of the stomach is necessary. Do not give anything by mouth to an unconscious or convulsing person.
	Refer to Section 11 - Toxicological Information.
Notes to Physician	All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

**Section 5: Fire-Fighting Measures**

<b>Extinguishing Media</b>		
Suitable Extinguishing Media	Flammable Properties:	Not available
	Flammable Limits:	Not available
	Auto-ignition Temperature:	Not available
	Hazardous Combustion Products:	Not available
Extinguishing Media and Fire Fighting Instructions	Small fires:	Water, carbon monoxide, dry chemical powder, dry sand, or foam.
	Large Fires:	Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Do not use straight streams. Dike fire control water for later disposal; do not scatter material.
		Wear positive pressure, self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. Structural firefighters' protective clothing is recommended for fire situations ONLY; it is not effective in spill situations.

**Section 6 - Accidental Release Measures**

<b>Personal precautions, protective equipment and emergency procedures</b>	
Personal Precautions	Wear appropriate protective equipment including respiratory protection as conditions warrant.
<b>Methods and material for containment and cleaning up</b>	

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Containment/Clean-up Measures	If material is released or spilled, use vacuum or sweep up spills.
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**Section 7 - Handling and Storage**

<b>Precautions for safe handling</b>	
Handling	Do not breathe dust. Avoid contact with eyes, skin and clothing.
<b>Conditions for safe storage, including any incompatibilities</b>	
Storage	Keep container closed. Keep away from incompatible materials. Store in a cool, dry area away from ignition sources and oxidizers.
<b>Incompatible Materials or Ignition Sources</b>	
	Store in a cool, dry area away from ignition sources and oxidizers.

**Section 8 – Exposure Controls/Personal Protection**




**Control parameters**

OSHA Hazardous Components (29 CFR1910.1200)			
Component	Exposure Limits		
	OSHA	ACGIH	NIOSH
Boron Oxide	Total Dust: 15mg/m <sup>3</sup> Respirable Dust: 5mg/m <sup>3</sup>	TWA 2mg/m <sup>3</sup> STEL 6mg/m <sup>3</sup>	
Polysaccharide			

**Workplace Exposure Limits**

Chemical specific exposure limits have not been established for the components of this material. However, due to the material's physical characteristics, it may become a nuisance dust hazard. The workplace exposure limits for nuisance dusts are:

- 15 mg/m<sup>3</sup> OSHA PEL (total particulates not otherwise classified)
- 5 mg/m<sup>3</sup> OSHA PEL (respirable fraction particulates not otherwise classified)
- 10 mg/m<sup>3</sup> ACGIH TLV (total particulates not otherwise classified)

<b>Exposure Controls</b>	
Engineering Measures/Controls	Local exhaust ventilation should be applied whenever there is an incidence of point source emissions or dispersion of regulated contaminants in the work area. Ventilation control of the contaminant as close to its point of generation is both the most economical and safest method to minimize personnel exposure to airborne contaminants.
Personal Protective Equipment	
Pictograms	
	  

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Respiratory	Where exposure may exceed OSHA or ACGIH permissible air concentrations, a dust respirator is required.
Hands	Gloves are appropriate for exposure that exceeds permissible limits.
Eye/Face	Use chemical goggles where eye contact may occur.

General Industrial Hygiene	Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco. Safety shower and eye wash should be available close to work areas.
Environmental Exposure Controls	Follow best practices for the site management and disposal of waste. Avoid release to the environment.

**Key to abbreviations**

ACGIH = American Conference of Governmental Industrial Hygiene

NIOSH = National Institute of Occupational Safety and Health

OSHA = Occupational Safety and Health Administration

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

STEL = Short Term Exposure Limits are based on 15-minute exposures OSHA

STEV = Short Term Exposure Value

**Section 9 - Physical and Chemical Properties**

**Material Description**

Appearance/Description	White to Off-White powder	Particulate Size	Not relevant
Color	White to Off-white	Particulate Type	Not relevant
Odor	Odorless	Physical Form	Powder
Odor Threshold	N/A	Taste	Data lacking

**General Properties**

Auto-ignition	N/A	Melting Point	450° C Initiation
Boiling Point	N/A	Octanol/Water Partition coefficient	Data lacking
Decomposition Temperature	N/A	pH	N/A
Evaporation Rate	N/A	Specific Gravity/Relative Density	N/A
Flammability (solid, gas)	N/A	Vapor Density	N/A
Flash Point	N/A	Vapor Pressure	N/A
Heat of Decomposition		Viscosity	N/A
LEL	N/A	Water Solubility	Readily soluble.

**Section 10 – Stability and Reactivity**

Chemical Stability	Stable at room temperature
Possibility of hazardous reactions	Hazardous polymerization will not occur.
Possibility of hazardous reactions	Oxidizers

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<b>Incompatible materials</b>	N/A
<b>Hazardous decomposition products</b>	Carbon monoxide and carbon dioxide. Other products may be generated. Use in well-ventilated areas and avoid breathing or contacting solid and gaseous products of decomposition.

**Section 11 - Toxicological Information**

<b>Information on toxicological effects</b>	
Reported Human Effects: Products/Similar Product –	Overexposure may cause nausea, vomiting and diarrhea, with delayed effects of skin redness and peeling.
Reported Animal Effects: Products/Similar Product –	
Ingestion:	Low acute oral toxicity; LD <sub>50</sub> in rats is 1,970 to 2,100 mg/kg of body weight.
Skin/Dermal:	Low acute dermal toxicity; LD <sub>50</sub> in rabbits is greater than 2,000 mg/kg of body weight. Boric Oxide is poorly absorbed through intact skin.
Eye Irritation:	Draize tests in rabbits produced mild eye irritation.
<b>Ingredient Chemicals listed as carcinogens by:</b>	
National Toxicology Program (NTP):	None
LARC Monographs:	None
OSHA:	None
<b>Route(s) of entry/exposure</b>	Inhalation, Skin, Eye, Ingestion
Inhalation:	
<b>Acute (Immediate)</b>	May cause irritation as a nuisance dust
<b>Chronic (Delayed)</b>	No data available
Skin:	
<b>Acute (Immediate)</b>	May cause skin irritation
<b>Chronic (Delayed)</b>	No data available
Eye:	
<b>Acute (Immediate)</b>	May cause mild eye irritation
<b>Chronic (Delayed)</b>	No data available
Ingestion:	
<b>Acute (Immediate)</b>	Not expected to be toxic upon ingestion but may cause gastrointestinal symptoms.
<b>Chronic (Delayed)</b>	No data available

**Section 12 - Ecological Information**

<b>Toxicity</b>	Boron is the element in boric oxide that is used by convention to report borate products ecological effects. It occurs naturally in seawater at an
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	average concentration of 5 mg B/L and generally occurs in fresh water at concentrations up to 1 mg B/L. In dilute aqueous solutions the predominant species present is un-dissociated boric acid.
Phototoxicity:	Boron is an essential micronutrient for healthy growth of plants; however, it can be harmful to boron sensitive plants in high quantity. Care should be taken to limit the amount of Boric Oxide released into the environment.
Algal toxicity:	Green algae: 96-hr EC <sub>10</sub> =24 mg B/L
Invertebrate toxicity:	Daphnia: 48-hr LC50=133 mg B/L
Sea water <sup>1</sup> :	Dab: 96-hr LC50=74 mg B/L
Fresh water <sup>2</sup> :	Rainbow trout (embryo-larval stage); 24-day LC50 = 150 mg B/L, 32-day LC50 = 100 mg B/L
	Goldfish (embryo-larval stage): 7-day LC50 = 46 mg B/L, 3-day LC50 = 178 mg B/L
Boron is naturally occurring and ubiquitous in the environment. Boric Oxide decomposes in the environment to natural borate.	
Log POW: -0.7570 at 25oC. Boric oxide reacts with water to form boric acid.	
Boric Oxide is soluble in water and is leachable through normal soil.	
<b>Persistence and degradability</b>	Material data lacking
<b>Bio-accumulative potential</b>	Material data lacking
<b>Mobility in Soil</b>	Material data lacking
<b>Other adverse effects</b>	Not available
<b>Other Information</b>	Not available

**Section 13 - Disposal Considerations**

<b>Waste treatment methods</b>	
Collect spilled materials and place in sealed containers for disposal. Use clean up measures that minimize dust. Small quantities can be disposed of at landfill sites. Local authorities should be contacted about specific local requirements.	

**Section 14 - Transport Information**

<b>Special precautions for user</b>	Boron oxide is not classified as Hazardous substance for transport. It is not regulated by 14.1 US DOT: Unregulated 14.2 Canada TDG: WHIMS Class D2A 14.3 Transport Classification for Road (ADR) / Rail (RID); Inland waterways (ADN); Sea (IMDG); Air (ICAO/IATA): 14.3.1 UN Number: Not Regulated 14.3.2 UN Proper Shipping Name: Not Regulated 14.3.3 Transport hazard class(es): Not Regulated 14.3.4 Packing Group: Not Regulated 14.3.5 Environmental Hazards (e.g. marine pollutant): Not regulated 14.3.6 Transport in bulk according to Annex II of Marpol 73/78 and the IBC code: Not Regulated 14.3.7 Special precautions for user: Not Regulated
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**Section 15 - Regulatory Information**

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

EPA					
CAS Number	Chemical Name	Sec. 302 (EHS) TPQ (in pounds) <sup>1</sup>	EHS RQ (in pounds) <sup>2</sup>	CERCLA Reportable Quantity (in pounds) <sup>3</sup>	Subject to Sec. 313 Reporting <sup>4</sup>
1303-86-2	Boron Oxide	Not listed	Not listed	Not listed	Not listed
11138-66-2	Polysaccharide	Not listed	Not listed	Not listed	Not listed
68153-22-0	Solid saturate hydrocarbon	not listed	not listed	not listed	not listed
110-30-5	Stearic Wax (mixture)	not listed	not listed	not listed	not listed

<sup>1</sup> The presence of EHSs in quantities in excess of the Threshold Planning Quantity (TPQ) requires certain emergency planning activities to be conducted. (Appendix B to 40 CFR 355)

<sup>2</sup> Releases of reportable quantities (RQ) of EHSs are subject to state and local reporting under section 304 of SARA Title III (EPCRA). (40 CFR 302.4)

<sup>3</sup> Releases of CERCLA hazardous substances, in quantities equal to or greater than their reportable quantity (RQ), are subject to reporting to the National Response Center under CERCLA. (Appendix A to 40 CFR 172.101)

<sup>4</sup> Emissions, transfers, and waste management data for chemicals listed under section 313 must be reported annually as part of the community right-to-know provisions of SARA Title III (EPCRA) (40 CFR Part 372).

**Section 16 - Other Information**

<b>Last revision date</b>	5/7/15
<b>Preparation date</b>	5/7/15

References:

1. Hugman SJ, Mance G, Water Research Centre Report 616-M (1983)
2. Butterwick L, de Oude N, Raymond K, Ecotoxicol, Environ Safety 17: 339-371 (1989)

Disclaimer/statement of liability

The information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of need that information is current, applicable and suited to the circumstance of use. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, vendor assumes no responsibility for injury caused by abnormal use of this material even if reasonable safety procedures are followed. Any questions regarding this product should be directed to the manufacturer of the product as described in Section 1.



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