

Product: Boron Nitride Lubriccoat

H = 1
F = 0
R = 0 **

MATERIAL SAFETY DATA SHEET

SECTION I: PRODUCT AND COMPANY IDENTIFICATION

EFFECTIVE DATE: April 11, 2014

PRODUCT NAME: **Boron Nitride Lubriccoat**

MANUFACTURER: ZYP Coatings, Inc.
120 Valley Court
Oak Ridge, TN 37830

Manufacturer Phone: (865) 482-5717 (8:30 a.m. - 5 p.m.)
Manufacturer Fax: (865) 482-1281

For any chemical emergency, call Chem-Tel: 800-255-3924; outside the U.S., call COLLECT 813-248-0585

SECTION II: COMPOSITION/INFORMATION ON INGREDIENTS (SEE SECTION VIII FOR EXPOSURE GUIDELINES)

COMPONENT	CAS NUMBER	% BY WEIGHT
Boron Nitride	10043-11-5	23-28
Water	7732-18-5	65-70
Aluminum Oxide	1318-23-6	3-5

SECTION III: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Nearly odorless white non-flammable water-based paint of Boron Nitride. Mildly acidic with pH between 2 and 4. Slippery, can cause falls if walked on. The paint is mildly corrosive to the eyes on contact. Inhalation of paint mist or fumes evolved upon first heating of coating to 600°C may be irritating to respiratory tract.

POTENTIAL HEALTH EFFECTS:

PRIMARY ROUTES OF EXPOSURE: Inhalation and contact to the eyes.

TARGET ORGANS: Eyes, skin and respiratory system.

EYE: Corrosive burns upon extended contact.

SKIN CONTACT: Possible mild skin inflammation.

SKIN ABSORPTION: N/A

INGESTION: Irritation to gastrointestinal tract.

INHALATION: Irritation to upper respiratory system.

ACUTE EFFECTS: The paint may be mildly corrosive to the eyes on contact, and irritating to the skin on prolonged contact. Mists from the product are irritating to the upper respiratory system as well as the fumes that are emitted during the first heating of the coating to 600°C.

CHRONIC EFFECTS: Excessive inhalation of dust above TLV of dried materials over long periods of time may cause industrial bronchitis, reduced breathing capacity and lead to increased susceptibility to lung disease.

CARCINOGENICITY: Not Carcinogenic

SECTION IV: FIRST AID MEASURES

EYES: Flush eyes, including under the eyelids, with large amounts of water. If irritation persists, seek medical attention.

SKIN: Wash thoroughly with mild soap and water.

INGESTION: Give copious amounts of water and seek medical attention.

INHALATION: Remove to fresh air. Seek medical attention if symptoms persist.

SECTION V: FIRE FIGHTING MEASURES

GENERAL OVERVIEW

This water-based refractory coating is non-combustible. Use extinguishing media appropriate to the surrounding fire.

FLASH POINT: N/A

METHOD USED: N/A

FLAMMABLE LIMITS: LFL: N/A UFL: N/A

EXTINGUISHING MEDIA: N/A

UNUSUAL FIRE & EXPLOSIVE HAZARDS: See additional notes

FIRE FIGHTING EQUIPMENT: N/A

ADDITIONAL NOTES: Initial exposure to high temperatures evolve in small amounts fumes that may be irritating or corrosive to the upper respiratory system.

SECTION VI: ACCIDENTAL RELEASE MEASURES

Contain the spill by using a mineral absorbent. It can be readily neutralized using any basic neutralization agent such as lime or sodium carbonate. Clean-up personnel should wear rubber gloves and goggles to prevent irritation from contact.

SECTION VII: HANDLING AND STORAGE

Store in original container. Do not store in metal containers since the paint may be corrosive to the container. Boron nitride is slippery and is a slip hazard on walkways. Practice good housekeeping. Note Exposure Controls and Personal Protection (Section VIII) before using.

SECTION VIII: EXPOSURE CONTROL/PERSONAL PROTECTION

INGREDIENT	CAS NUMBER	EXPOSURE LIMIT
Boron Nitride	10043-11-5	None established (treat as nuisance dust); Total dust 10 mg/m ³ , Respirable 5 mg/m ³
Aluminum Oxide	1318-23-6	ACGIH Total dust 10 mg/m ³ , Respirable dust 5 mg/m ³
Nitric Acid	7697-37-2	OSHA TWA= 2ppm, 5 mg/m ³ , STEL-4 ppm, 10 mg/m ³

The TLV:TWA calculated for dust generated from the dried product is 10 mg/m³ for total dust and 5 mg/m³ for respirable dust. The TLV:TWA for dust generated from this mixture is calculated using the general formula given in ACGIH adopted Appendix C, Subpart A2, threshold limit values for mixtures of mineral dust.

SPRAY APPLICATIONS: For spray application where exposure exceeds TLV use a NIOSH/MSHA approved respirator, goggles, rubber gloves, and protective clothing.

VENTILATION: Provide adequate general ventilation and local ventilation to control mist/dusts below the TLV.

PERSONAL PROTECTION: Glasses, gloves and long sleeve clothing.

SECTION IX.: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: White slurry paint	ODOR: Nearly odorless
PHYSICAL STATE: Liquid	pH: 2-4
VAPOR PRESSURE: Approx. 10-20mmHg	VAPOR DENSITY: Less than air (Air=1)
BOILING POINT: 212°F	FREEZING POINT: 30°F
SOLUBILITY IN WATER: N/A	SPECIFIC GRAVITY: 1.12 g/cc
VOC CONTENT: 0 g/l	VISCOSITY: Approx. 900-1200 Brookfield Spindle 3 / Speed 60
PERCENT VOLATILE: 65-70%	EVAPORATION RATE: About

that of water

SECTION X: STABILITY AND REACTIVITY

STABILITY: This refractory coating is stable under all normal conditions of storage. Hazardous polymerization will not occur.

INCOMPATIBILITY: Do not mix with alcohols. As a good practice, do not mix with any other materials.

HAZARDOUS DECOMPOSITION PRODUCTS: Upon initial heating to 600°C will yield very small amounts of nitric oxide fumes.

SECTION XI: TOXICOLOGICAL INFORMATION

Please see Section VIII. For available information.

SECTION XII: ECOLOGICAL INFORMATION

None Available

SECTION XIII: DISPOSAL CONSIDERATIONS

Consult local, state and federal regulations for compliance. The low pH and liquid nature of this paint product may restrict disposal options. Non-contaminated paint may be returned to the manufacturer for proper disposal. The dried paint generally does not exhibit any characteristics of a hazardous waste.

SECTION XIV: TRANSPORTATION INFORMATION

DOT Class: Not regulated

SECTION XV: REGULATORY INFORMATION

This product contains less than 1% nitric acid CAS# 7697-37-2.
RQ = 1000 lbs, TPQ = 1000 lbs.

Nitric acid is on the following regulatory lists:

Clean Water Act Section 311 Hazardous Substances
Comprehensive Environmental response, Compensation, and Liability Act (CERCLA)
Hazardous Substances
Superfund Amendments and Reauthorization Act (SARA) Title III
Section 302 Extremely Hazardous Substances
Section 313 Toxic Substances
Section 110 Priority List of CERCLA Hazardous Substances
OSHA Air Contaminants
Canadian WHMIS Disclosure List
Massachusetts Substance List
New Jersey Right to Know Hazardous Substance List
Pennsylvania Hazardous Substance List.

TSCA INVENTORY: All substances contained in this product are listed in the Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

SECTION XVI: OTHER INFORMATION

Although reasonable care has been taken in the preparation of the information contained herein, the manufacturer extends no warranties, makes no representation and assumes no responsibility as to the accuracy or suitability of such information for application to purchaser's intended purposes or for consequences of its use.

*** Caution: HMIS rating are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS ratings are to be used only in conjunction with a fully implemented HMIS program by workers who have received appropriate HMIS training. HMIS is a registered trade and service mark of the NPCA. HMIS materials may be purchased exclusively from J.J. Keller (800) 327-6868.*