

71-9342

Century Industries

P.O. Box 17084, Bristol, Virginia 24209

Phone: 423-646-1864/276-628-7553

March 22, 2011

Mr. Pierre M. Saverot – Project Manager
Office of Nuclear Material Safety and Safeguards
Mail Stop: EBB-3D-02M
United States Nuclear Regulatory Commission
Executive Boulevard Building
6003 Executive Boulevard
Rockville, Maryland 20852

RE: Request for packing material concurrence to Certificate of Compliance No. 9342 for the Model No. Versa-Pac Package, Docket No. 71-9342

Dear Mr. Saverot,

Century Industries would like to thank you and your staff for all the assistance provided to date, concerning the amendments requested and granted by your office for the Versa-Pac Shipping Container.

Certificate Number	Model Number
USA/9342/AF	VP-55 & VP-110

Our customer has requested that we seek concurrence from your office regarding filler packing materials to be utilized during the transport of product in the Versa-Pac.

We would respectfully request that two packing materials, Aluminum Trihydrate; Al(OH)₃ and/or Borax (fused); Sodium borate; Na₂B₄O₇ be reviewed and approved for usage as filler material within the Versa-Pac Shipping Container.

We have attached typical Material Safety Data Sheets (MSDS) for both the Aluminum Trihydrate and Borax (fused) Sodium Borate for your reference.

If you or your staff have any questions, or need any additional information, please let me know.

Sincerely,

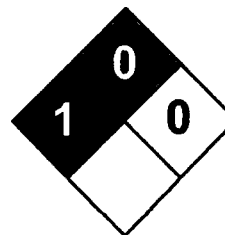


William M. (Mike) Arnold
President – Century Industries
Phone: 423-646-1864
E-mail: CenturyIndWMA@aol.com

Attachments: MSDS Aluminum Trihydrate & Borax (fused) Sodium Borate

Cc: File

NH5501



Health	1
Fire	0
Reactivity	0
Personal Protection	E

Material Safety Data Sheet

Sodium Borate (Borax, fused) MSDS

Section 1: Chemical Product and Company Identification

Product Name: Sodium Borate (Borax, fused)

Catalog Codes: SLS1144

CAS#: 1330-43-4

RTECS: ED4588000

TSCA: TSCA 8(b) inventory: Sodium Borate (Borax, fused)

CI#: Not available.

Synonym: Sodium Biborate; Fused Borax; Sodium Boron oxide; Sodium Tetraborate; Anhydrous Borax

Chemical Name: Boric Acid Disodium Salt

Chemical Formula: B4-O7.2Na or Na2-B4-O7

Contact Information:

Sciencelab.com, Inc.

14025 Smith Rd.

Houston, Texas 77396

US Sales: **1-800-901-7247**

International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:
1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Sodium Borate (Borax, fused)	1330-43-4	100

Toxicological Data on Ingredients: Not applicable.

Section 3: Hazards Identification

Potential Acute Health Effects: Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Not available. Repeated or prolonged exposure is not known to aggravate medical condition.

Section 4: First Aid Measures

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention if irritation occurs.

Skin Contact:

Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. Cold water may be used.

Serious Skin Contact: Not available.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation: Not available.

Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Non-flammable.

Auto-Ignition Temperature: Not applicable.

Flash Points: Not applicable.

Flammable Limits: Not applicable.

Products of Combustion: Not available.

Fire Hazards in Presence of Various Substances: Not applicable.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions: Not applicable.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures**Small Spill:**

Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:

Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions: No specific safety phrase has been found applicable for this product.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection: Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:

TWA: 1 (mg/m³) from ACGIH (TLV) [United States] [1998] TWA: 1 (mg/m³) [United Kingdom (UK)] TWA: 1 (mg/m³) from NIOSH [United States] TWA: 1 (mg/m³) [Mexico] TWA: 1 (mg/m³) [Canada]]Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Solid.

Odor: Odorless.

Taste: Not available.

Molecular Weight: 201.22 g/mole

Color: White.

pH (1% soln/water): Not available.

Boiling Point: Not available.

Melting Point: 741°C (1365.8°F)

Critical Temperature: Not available.

Specific Gravity: 2.367 (Water = 1)

Vapor Pressure: Not applicable.

Vapor Density: Not available.

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water.

Solubility:

Partially soluble in cold water, hot water. Solubility in water: 1.06 g/100 ml water @ 0 deg. C Solubility in water: 8.79 g/100 ml water at 40 deg. C Solubility in water: 2.56 g/100 ml water @ 20 deg. C. Insoluble in alcohol

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Incompatible materials, moisture

Incompatibility with various substances: Reactive with reducing agents.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity:

Hygroscopic; keep container tightly closed. Incompatible with alkaloid salts, mercuric chloride, zinc sulfate, and other metallic salts. Incompatible with moisture. Forms partial hydrate in moist air.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Inhalation. Ingestion.

Toxicity to Animals:

Acute oral toxicity (LD50): 2400 mg/kg [Rat]. Acute dermal toxicity (LD50): >2000 mg/kg [Rabbit].

Chronic Effects on Humans: Not available.

Other Toxic Effects on Humans: Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: May cause adverse reproductive effects.

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects: Skin: Dust causes skin irritation. Poorly absorbed through intact skin. Eyes: Dust causes eye irritation. Inhalation: Causes respiratory tract irritation. Ingestion: Acute toxic effects of borates in general are nausea, vomiting, diarrhea, and delayed skin redness, rash, and dizziness. Chronic Potential Health Effects: Chronic exposures can produce eye irritation, coughing, and skin rash (the latter following ingestion).

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The product itself and its products of degradation are not toxic.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: Not a DOT controlled material (United States).

Identification: Not applicable.

Special Provisions for Transport: Not applicable.

Section 15: Other Regulatory Information

Federal and State Regulations:

Pennsylvania RTK: Sodium Borate (Borax, fused) Minnesota: Sodium Borate (Borax, fused) TSCA 8(b) inventory: Sodium Borate (Borax, fused)

Other Regulations: EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada): Not controlled under WHMIS (Canada).

DSCL (EEC):

This product is not classified according to the EU regulations. Not applicable.

HMIS (U.S.A.):

Health Hazard: 1

Fire Hazard: 0

Reactivity: 0

Personal Protection: E

National Fire Protection Association (U.S.A.):

Health: 1

Flammability: 0

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Safety glasses.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

Created: 10/09/2005 06:29 PM

Last Updated: 11/01/2010 12:00 PM

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Material Safety Data Sheet

According to OSHA 29 CFR 1910.1200

Printing date 03/15/2005

Reviewed on 03/15/2005

* 1 Chemical Product and Company Identification

- **Product Name: Hydrated Aluminas** 839
(Ground and unground)
- **Other Designations:**
Alumina Trihydrate, Aluminum Trihydroxide ATH Series, Bayer Hydrated Alumina, C-30, KB-30, KC-30, KH-30.
- **Application of the substance / the preparation**
Fire retardant
Coating
- **Manufacturer/Supplier:**
Alcoa World Alumina LLC
201 Isabella Street
Pittsburgh, PA 15212-5858 USA
Health & Safety: +1-412-553-4649
- **Information department:** www.alcoa.com
- **Emergency Information:** USA: Chemtrec: +1-703-527-3887 +1-800-424-9300 ALCOA: +1-412-553-4001

* 2 Composition/Data on components:

- **Chemical characterization**
- **Description:**
Complete composition is provided below and may include some components classified as non-hazardous.

CAS No:	Component	
21645-51-2	Aluminum trihydroxide	99.5%
· Additional information: Loss on ignition		34-35 %

* 3 Hazards identification

- **EMERGENCY OVERVIEW:**
- **EYES:** Can cause mild irritation.
- **SKIN:** Can cause mild irritation.
- **INHALATION:** Can cause mild upper respiratory tract irritation.
- **INGESTION:** Can cause mild irritation.
- **Chemical ingredient and possible processing hazards:** Aluminum trihydroxide: Low health risk by inhalation.
- **Hazard description:**
- **Medical conditions aggravated by exposure to the product:** Asthma, chronic lung disease, and skin rashes.
- **Information pertaining to particular dangers for man and environment** See item 11.
- **Classification system**
The classification was made according to the latest editions of the EU-lists, and expanded upon from company and literature data.

* 4 First aid measures

- **After inhalation**
Remove to fresh air.
Check for clear airway, breathing, and presence of pulse.
Provide cardiopulmonary resuscitation for persons without pulse or respirations.
Consult a physician.
- **After skin contact**
Wash with soap and water for at least 15 minutes.
Consult a physician if irritation persists.

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Material Safety Data Sheet

According to OSHA 29 CFR 1910.1200

Printing date 03/15/2005

Reviewed on 03/15/2005

Product Name: Hydrated Aluminas
(Ground and unground)

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(Contd. from page 1)

- **After eye contact**

Flush eyes with plenty of water for at least 15 minutes.
Consult a physician.

- **After swallowing**

If swallowed, dilute by drinking large amounts of water.
Recommend quantities up to 30 mL (~1 oz.) in children and 250 mL (~9 oz.) in adults.
Never give anything by mouth to a convulsing or unconscious person.
Do not induce vomiting.
Consult a physician.

* 5 Fire fighting measures

- **Fire/Explosion Hazards:** Non-combustible.
- **Suitable extinguishing agents** Use fire fighting methods and materials that are appropriate for surrounding fire.
- **Protective equipment:**
Fire fighters should wear NIOSH approved, positive pressure, self-contained breathing apparatus and full protective clothing when appropriate.

* 6 Accidental release measures

- **Person-related safety precautions:**



Wear protective clothing.

- **Measures for environmental protection:** No special measures required.
- **Measures for cleaning/collecting:** Clean up using dry procedures; avoid dusting.

* 7 Handling and storage

- **Handling**
- **Information for safe handling:**
Avoid generating dust.
Provide adequate ventilation if dust is formed.
- **Information about protection against explosions and fires:** No special measures required.
- **Storage**
- **Requirements to be met by storerooms and receptacles:** Keep material dry.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.

* 8 Exposure controls and personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Personal protective equipment**
- **Breathing equipment:**
Use suitable respiratory protection in case of insufficient ventilation.
Suitable respiratory protective device recommended:
Filter NIOSH N95.
- **Protection of hands:** Wear appropriate gloves to avoid any skin injury.
- **Material of gloves** Strong gloves

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Material Safety Data Sheet

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- **Penetration time of glove material** Not applicable
- **Eye protection:** Safety glasses with full side shields or goggles recommended.

* 9 Physical and chemical properties:

· General Information	
· Form:	Crystalline powder
· Color:	White
	Off-white
· Odor:	Odorless
· Change in condition	
· Melting point/Melting range:	Decomposes before melting.
· Boiling point/Boiling range:	Not applicable
· Flash point:	Not applicable
· Auto igniting:	Product is not self igniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Density at 20°C (68°F):	2.42 g/cm ³ 0.087 lb/in ³
· Bulk density at 20°C (68°F):	0.15-1.3 g/cm ³ 9.4-80 lb/ft ³
· Solubility in / Miscibility with	
· Water:	Insoluble
· pH-value at 20°C (68°F):	8.5-10.2 (20% in H ₂ O)
· Solvent content:	
· Organic solvents:	0.0 %
· Solids content:	100 %

* 10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Materials to be avoided:**
- **Reactions:**
Heating the material above 200°C will result in a sudden release of water vapor (steam). Precautions must be taken to dissipate the vapor and any pressure that may be generated. A sudden increase in pressure could cause damage or explosion in enclosed equipment.
- **Additional information:** Non-corrosive.

* 11 Toxicological information

- **Primary irritant effect:**
- **On the skin:** Can cause mild irritation.
- **On the eye:** Can cause mild irritation.
- **Inhalation:** Can cause mild upper respiratory tract irritation.
- **Ingestion:** Can cause mild irritation.

* 12 Ecological information:

- **Additional ecological information:**
- **General notes:** Not known to be hazardous to water.

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Material Safety Data Sheet

According to OSHA 29 CFR 1910.1200

Printing date 03/15/2005

Reviewed on 03/15/2005

Product Name: Hydrated Aluminas
(Ground and unground)

839

(Contd. from page 3)

* 13 Disposal considerations

- **Product:**
- **Recommendation**
Reuse or recycle material whenever possible.
If reuse or recycling is not possible, disposal must be made according to local or governmental regulations.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to local or governmental regulations.

* 14 Transport information

<ul style="list-style-type: none"> · DOT regulations: · Hazard class: - · Remarks: U.S.A. DOT: Not regulated - Enter the proper freight classification. "MSDS Number," and "Product Name" on the shipping paperwork. Canadian TDG Hazard Class & PIN: Not regulated.
<ul style="list-style-type: none"> · Land transport ADR/RID (cross-border) · ADR/RID class: - · Remarks: Not regulated
<ul style="list-style-type: none"> · Maritime transport IMDG: · IMDG Class: - · Marine pollutant: No · Remarks: Not regulated
<ul style="list-style-type: none"> · Air transport ICAO-TI and IATA-DGR: · ICAO/IATA Class: - · Remarks: Not regulated

* 15 Regulations

- **U.S. Federal Regulations:**
- **TSCA STATUS:** All components of this product are listed on the TSCA inventory.
- **CERCLA REPORTABLE QUANTITY:** None.
- **SARA TITLE III:**
Section 302 Extremely Hazardous Substances:
None.
- **Section 311/312 Hazardous Categories:** None.
- **Section 313 Toxic Categories:** None.
- **OTHER INFORMATION:**
In reference to Title VI of the Clean Air Act of 1990, this material does not contain nor was it manufactured using ozone-depleting chemicals.
- **International Regulations:**
- **CANADIAN DOMESTIC SUBSTANCES LIST:** All components of this product are listed on the Canadian DSL.
- **AUSTRALIAN INVENTORY OF CHEMICAL SUBSTANCES:** All components of this product are listed on the AICS.
- **Japan - Existing and New Chemical Substances (ENCS)** All components of this product are listed on ENCS.

* 16 Other information:

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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Material Safety Data Sheet

According to OSHA 29 CFR 1910.1200

Printing date 03/15/2005

Reviewed on 03/15/2005

Product Name: Hydrated Aluminas
(Ground and unground)

839

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Department Issuing MSDS:

Hazardous Materials Control Committee

Preparer: Jon N. Peace, +1-412-553-2293

Alcoa Inc., 201 Isabella Street, Pittsburgh, PA 15212-5858 USA

15.03.05 Supersedes 26.12.02

15.03.05: Reviewed on a periodic basis in accordance with Alcoa policy. Change(s) in Section: 1, 2, 3 (GBR), 4, 8, 10 & 13.

Alcoa MS #: 134231

Appendix:

- Guide to Occupational Exposure Values 2004, Compiled by the American Conference of Governmental Industrial Hygienists (ACGIH).
- Documentation of the Threshold Limit Values and Biological Exposure Indices, Sixth Edition, 1991, Compiled by the American Conference of Governmental Industrial Hygienists, Inc. (ACGIH).
- NIOSH Pocket Guide to Chemical Hazards, U.S. Department of Health and Human Services, June 1994.
- Patty's Industrial Hygiene and Toxicology: Volume II: Toxicology, 4th ed., 1994, Patty, F. A.; edited by Clayton, G. D. and Clayton, F. E.: New York: John Wiley & Sons, Inc.
- Integrated Index(R), MICROMEDEX, Inc., 2003

LEGEND:

ACGIH	American Conference of Governmental Industrial Hygienists
AICS	Australian Inventory of Chemical Substances
CAS	Chemical Abstract Services
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CPR	Cardio-pulmonary Resuscitation
DOT	Department of Transportation
DSL	Domestic Substances List (Canada)
EC	Effective Concentration
ED	Effective Dose
EINECS	European Inventory of Existing Commercial Chemical Substances
ENCS	Japan - Existing and New Chemical Substances
EWC	European Waste Catalogue
EPA	Environmental Protective Agency
IARC	International Agency for Research on Cancer
LC	Lethal Concentration
LD	Lethal Dose
MAK	Maximum Workplace Concentration (Germany) "maximale Arbeitsplatz-Konzentration"
NDSL	Non-Domestic Substances List (Canada)
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration
PIN	Product Identification Number
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
STEL	Short Term Exposure Limit
TCLP	Toxic Chemicals Leachate Program
TDG	Transportation of Dangerous Goods
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
TWA	Time Weighted Average
WHMIS	Workplace Hazardous Materials Information System

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USA

Material Safety Data Sheet

According to OSHA 29 CFR 1910.1200

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Reviewed on 03/15/2005

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m meter, cm centimeter, mm millimeter, in inch,
g gram, kg kilogram, lb pound, µg microgram,
ppm parts per million, ft feet

· * **Data compared to the previous version altered.**

USA

HYDRATED ALUMINAS



CAUTION

Hazards: Can cause mild irritation of eyes, skin, and upper respiratory tract.

Precautions: Avoid generating dust. Use with adequate ventilation.

Use appropriate personal protective equipment (safety glasses/gloves) to avoid injury. Use appropriate respiratory protection (N95) in case of insufficient ventilation.

First Aid: EYES: Flush eyes with plenty of water for at least 15 minutes. Consult a physician. SKIN: Wash with soap and water for at least 15 minutes. Consult a physician if irritation persists. INHALATION: Remove to fresh air. Check for clear airway, breathing, and presence of pulse. Provide CPR for persons without pulse or respirations. Consult a physician. INGESTION: If swallowed, dilute by drinking large amounts of water. Recommend quantities up to 30 mL (~1 oz.) in children and 250 mL (~9 oz.) in adults. Never give anything by mouth to a convulsing or unconscious person. Do not induce vomiting. Consult a physician.

Fire Fighting: Product is non-combustible. Use fire fighting methods and materials that are appropriate for surrounding fire.

Accidental Release: Clean up using dry procedures; avoid dusting. Pick up mechanically.

See Alcoa Material Safety Data Sheet No. 839 for more information about use and disposal.

Emergency Phone: (412) 553-4001.

INGREDIENTS: CAS NUMBERS:
Aluminum trihydroxide (21645-51-2)

Alcoa World Alumina LLC
201 Isabella Street, Pittsburgh, PA 15212-5858 USA

3/05 839

