

# MATERIAL SAFETY DATA SHEET



Page: 1 of 5  
Date Issued: 02Feb07  
MSDS Ref. No: Na/Al<sub>2</sub>O<sub>3</sub> Catalyst  
Date Reviewed: 27Nov07

**Sodium Alumina**

---

## 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Na/Al<sub>2</sub>O<sub>3</sub> Catalyst  
Chemical Name: Not Applicable - Blend  
Chemical Family: Sodium/Alumina Compounds  
Product Description: Grey solid, either powder, granules, spheres, or extrudate  
Generic Name: Sodium on Alumina Catalyst

### MANUFACTURER:

SiGNa Chemistry, Inc.  
Telephone (Headquarters): +1-212-933-4101  
Telephone (Process Dev.): +1-732-438-0700

### 24 HR. EMERGENCY TELEPHONE NUMBERS:

Emergency Phone +1-888-779-0780

Headquarters:  
530 E. 76<sup>th</sup> St., Ste. 9E  
New York, NY 10021 USA TEL: +1-212-933-4101

---

## 2 COMPOSITION / INFORMATION ON INGREDIENTS

The composition of this mixture may be proprietary information. In the event of a medical emergency, compositional information will be provided to a physician or nurse.

This product is hazardous as defined in 29 CFR 1920.1200. based on the following compositional information :

OSHA HAZARD  
ACGIH TLV : OSHA PEL

COMPONENT  
Alumina, Aluminum Soluble Salts

---

## 3 HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

PHYSICAL APPEARANCE: Grey powder

### POTENTIAL HEALTH EFFECTS

EYES: Causes eye irritation. May cause injury if not removed promptly.

SKIN: Causes skin irritation. Allergic reactions are possible.

INHALATION: Dust may be irritating to eyes and respiratory tract.

INGESTION: Irritating to mouth, throat, and stomach. May cause gastric tract disorder and/or damage.

**ROUTES OF ENTRY:** Inhalation or Ingestion.

**GENERAL HAZARDS:** Keep under nitrogen atmosphere. Will react with air.

---

## 4 FIRST AID MEASURES

**EYES:** Immediately flush eyes with large amounts of water for 15 minutes or longer. Get prompt medical attention.

**SKIN:** Immediately flush with large amounts of water. Use soap if available. Remove contaminated clothing, including shoes, after flushing has begun. If irritation persists, seek medical attention.

**INHALATION:** Using proper respiratory protection, remove the affected victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**INGESTION:** DO NOT induce vomiting. If individual is conscious, give plenty of water or milk to dilute stomach contents. Keep warm and quiet. May require medical attention. DO NOT attempt to give anything by mouth to an unconscious person

---

# MATERIAL SAFETY DATA SHEET

---

## 5 FIRE FIGHTING MEASURES

Flashpoint and Method: N/A  
Auto ignition Temperature: N/A

**EXTINGUISHING MEDIA:** Use water spray to cool fire-exposed surfaces and to protect personal. Isolate "fuel" supply to fire.

**SPECIAL HAZARDS:** Material will not burn. If thermally decomposed, flammable / toxic gases may be released. Will react with water or moist air to form flammable hydrogen gas.

---

## 6 ACCIDENTAL RELEASE MEASURES

**LARGE SPILL:** Prevent additional discharge of material. Implement clean-up procedure. For large spills in public area, notify authorities. Dispose in suitable containers for recycling or disposal. Ensure conformity to local disposal regulations.

---

## 7 HANDLING AND STORAGE

**HANDLING:** Avoid generating and inhaling dust

**STORAGE:** Store in a tightly closed container under nitrogen atmosphere.

Storage Temperature: Ambient  
Loading Temperature: Ambient  
Loading/Unloading Viscosity: N/A  
Storage Pressure: Atmospheric under N<sub>2</sub>

**COMMENTS:** Keep container closed. Handle and open containers with care. Store in a cool, well ventilated place away from incompatible materials. This material is not a static accumulator, but use proper bonding and/or grounding procedures.

---

## 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

### EXPOSURE GUIDELINES:

#### OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200)

#### EXPOSURE LIMITS

		EXPOSURE LIMITS	
		OSHA PEL	ACGIH TLV
		mg/m <sup>3</sup>	mg/m <sup>3</sup>
Aluminum Oxide (Alumina) (Respirable Fraction)	TWA	5	
Aluminum Oxide (Alumina) Total Dust	TWA	15	10
Aluminum Soluble Salts	TWA		2

**ENGINEERING CONTROLS:** Local exhaust ventilation may be necessary to control any air contaminants to within their TLVs during the use of this product.

### PERSONAL PROTECTIVE EQUIPMENT:

**EYES AND FACE:** Wear safety glasses with side shields (or chemical goggles) and a face shield.

**SKIN:** In open systems, wear long sleeves and chemical-resistant gloves when handling. Where contact may occur, wear long sleeves.

**RESPIRATORY:** If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit. Where concentrations in air may exceed the limits given in this section and engineering, work practices, or other means of exposure reduction are not adequate. NIOSH/MSHA-approved respirators may be necessary to prevent overexposure by inhalation.

---

---

# MATERIAL SAFETY DATA SHEET

Page: 3 of 5

Na/Al<sub>2</sub>O<sub>3</sub> Catalyst

---

## 9 PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Solid  
Odor: Not determined  
Appearance: Grey powder  
Color: Grey solid, either powder, granules, spheres, or extrudate  
pH: N/A  
Percent Volatile: None  
Vapor Pressure: None  
Boiling point : None  
Freezing Point: Not Determined  
Melting Point: None  
Solubility in Water: Reacts with Water  
Evaporation Rate: None  
Density: None  
Specific Gravity: N/A

---

## 10 STABILITY AND REACTIVITY

**STABLE:** Unstable

**CONDITIONS TO AVOID INSTABILITY:** Avoid moisture. Store under nitrogen atmosphere.

**POLYMERIZATION:** Will not occur

**HAZARDOUS DECOMPOSITION PRODUCTS:** Contact with moisture will form flammable hydrogen gas. Avoid contact with air and other oxidizing compounds.

**INCOMPATIBLE MATERIALS:** Water and avoid contact with air

---

## 11 TOXICOLOGICAL INFORMATION

**EYE EFFECTS:** May cause slight irritation.

**SKIN EFFECTS:** Slight irritation.

---

## 12 ECOLOGICAL INFORMATION

**ENVIRONMENTAL DATA:** Do not allow material to be released to the environment without proper government permits.

---

## 13 DISPOSAL CONSIDERATIONS

**DISPOSAL METHOD:** Reclamation for recycling by a qualified reclaimer is the only recommended route of disposal. Contact the supplier for further information.

**EMPTY CONTAINER:** It may be possible to reuse original packaging for the purpose of packaging the spent ready for reclaim. Check local regulations.

---

## 14 TRANSPORT INFORMATION

### DOT (DEPARTMENT OF TRANSPORTATION)

Proper Shipping Name: Water-Reactive Solid, Corrosive, n.o.s. (Sodium on Alumina Catalyst)

Technical Name: Sodium on Alumina Catalyst

Hazard Class: 4.3

NA/UN Number: 3131

Packing Group: III

Reportable Quantity (RQ) Under CERCLA: 10 lbs (sodium)

Placards: Water-Reactive Solid and Corrosive

Other Shipping Information:

---

# MATERIAL SAFETY DATA SHEET

Page: 4 of 5

Na/Al<sub>2</sub>O<sub>3</sub> Catalyst

## INTERNATIONAL

### I.M.O (INTERNATIONAL MARITIME ORGANIZATION)

Proper Shipping Name: Water-Reactive Solid, n.o.s. (Sodium on Alumina Catalyst)

Label: Dangerous When Wet and Corrosive

### EUROPEAN TRANSPORTATION:

ADR/RID Hazard Classification: Water-Reactive Solid, n.o.s (Sodium on Alumina Catalyst)

ADR/RID Item Number:

### AIR (I.C.A.O)

Proper Shipping Name: Water-Reactive Solid, n.o.s. (Sodium on Alumina Catalyst)

Placards: water-reactive solid, n.o.s.

Label: Dangerous When Wet and Corrosive

### SPECIAL SHIPPING NOTES:

## 15 REGULATORY INFORMATION

### UNITED STATES

#### DOT Label Symbol and Hazard Classification

Hazardous When Wet



DOT Hazardous when wet label  
Water Reactive Solid, n.o.s.  
UN 3131



Corrosive  
Secondary Label

#### TSCA

Components of this product are listed on the TSCA Inventory

#### SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

Under the provisions of Title III, Sections 311/312 of the Superfund Amendments and Reauthorization Act, this product is classified into the following hazard categories: Immediate health, delayed health, and reactive. This information may be subject to the provisions of the Community Right-to-Know Reporting Requirements (40 CFR 370) if threshold quantity criteria are met. This product does not contain Section 313 Reportable Ingredients.

#### CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

Reportable Spill quantity: 10 lbs (sodium)

### Canada

#### WHMIS Hazard Symbol and Classification



WHMIS Hazardous When Wet

Secondary Label



WHMIS Corrosive

### EUROPEAN COMMUNITY

#### EU Label Symbol and Classification



EU Harmful – “Xn”



EU Highly Flammable – “F”

Secondary Label



EU Irritant -“Xi”



EU Corrosive- “C”

R14/15 Reacts violently with water, liberating extremely flammable gases  
 R20/21/22 Harmful by inhalation, in contact with skin and if swallowed  
 S16 Keep away from sources of ignition-No smoking  
 S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
 S27/28 After contact with skin, take off immediately all contaminated clothing, and wash with plenty of soap and water

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substance Control Act Chemical Substance Inventory.

**16 OTHER INFORMATION**

Exposure to air or atmospheric humidity may alter properties of the catalyst

**REVISION SUMMARY**

TSCA statement added to Section 15.

**NFPA CODES**

Health: 3    Fire: 3    Reactivity: 2

**HMIS CODES**

Health: 3    Fire: 3    Reactivity: 2

**MANUFACTURER DISCLAIMER:** This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of SiGNa Chemistry. The data on this sheet are related only to the specific material designated herein. SiGNa Chemistry assumes no legal responsibility for use or reliance upon these data.

**ADDITIONAL MSDS INFORMATION:** This material is designed for industrial applications. Improper usage should be avoided.