

ACTIVATED ALUMINA (GRADES A, D & P)

Material Safety Data Sheet Date Prepared: Jul/17/2000 Supersedes Date: Oct/22/97

1. CHEMICAL PRODUCT AND COMPANY DESCRIPTION

XEBEC INC
 730 Boul. Industriel,
 Blainville, Québec, Canada, J7C 3V4

Emergency Phone numbers:
 FOR EMERGENCIES INVOLVING A SPILL, LEAK , FIRE, EXPOSURE OR ACCIDENT
 CONTACT: (514) 848-1454

For Product Information:
 Tel: (450) 979-8700
 Fax: (450) 979-7869

Product Use:
 DRYING AGENT, CATALYST SUPPORT, GAS PURIFICATION

Chemical Name or Synonym:
 ACTIVATED ALUMINA (GRADES A, D & P)

Molecular Formula:
 Al₂O₃

2. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS Reg. Number	WHMIS Hazard	Percentage
ALUMINA	1344-28-1	Y	> 93
WATER	7732-18-5	N	Balance

3. HAZARDS IDENTIFICATION

A. EMERGENCY OVERVIEW:

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3. HAZARDS IDENTIFICATION (Continued)

Physical Appearance and Odour:

White powder solid, odourless

Warning Statements:

DUSTS IN HIGH CONCENTRATIONS MAY CAUSE SKIN, EYE AND RESPIRATORY TRACT IRRITATION.

B. POTENTIAL HEALTH EFFECTS:**Acute Eye:**

Causes foreign body irritation only.

Acute Skin:

Non-irritating. Skin absorption not likely

Acute Inhalation:

Low acute inhalation toxicity. May cause lung irritation, shortness of breath, chest pain.

Acute Ingestion:

Low acute oral toxicity. May cause constipation.

Chronic Effects:

This product does not contain any ingredient designated by IARC, NTP, ACGIH or OSHA as probable or suspected human carcinogens.

4. FIRST AID MEASURES

FIRST AID MEASURES FOR ACCIDENTAL:**Eye Exposure:**

Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. Seek medical attention if irritation develops or persists or if visual changes occur.

Skin Exposure:

In case of contact, wash with plenty of soap and water. Seek medical attention if irritation develops or persists.

Inhalation:

If respiratory irritation or distress occurs remove victim to fresh air. Seek medical attention if

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respiratory irritation or distress continues.

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4. FIRST AID MEASURES (Continued)

Ingestion:

No harmful effects expected. If appreciable quantities are swallowed, call a physician or poison control center. Do not leave victim unattended.

MEDICAL CONDITIONS POSSIBLY AGGRAVATED BY EXPOSURE:

Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.

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.

Treat symptomatically. No specific antidote available.

5 FIRE FIGHTING MEASURES

FIRE HAZARD DATA:**Flash Point:**

Not Applicable

Extinguishing Media:

Not combustible. Use extinguishing method suitable for surrounding fire.

Special Fire Fighting Procedures:

Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing.

Unusual Fire and Explosion Hazards:

Not combustible.

Hazardous Decomposition Materials (Under Fire Conditions):

None known

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6. ACCIDENTAL RELEASE MEASURES

Evacuation Procedures and Safety:**Containment of Spill:**

Follow procedure described below under Cleanup and Disposal of Spill.

Cleanup and Disposal of Spill:

Scrape up and place in appropriate closed container (see Section 7: Handling and Storage)

Environmental and Regulatory Reporting:

Do not flush to drain

7. HANDLING AND STORAGE

Minimum/Maximum Storage Temperatures:

Not available

Handling:

Avoid direct or prolonged contact with skin and eyes. Avoid breathing dusts.

Dry powders can build static electricity charges when subjected to the friction of conveying, mixing or sliding. Provide adequate precautions, such as electrical grounding, or inert atmospheres when material is used in the presence of flammable materials to prevent ignition.

Storage:

Store in an area that is clean, dry, store in tightly closed containers. Store in original container.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Introductory Remarks:

These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. While developing safe handling procedures, do not overlook the need to clean equipment and piping systems for maintenance and repairs. Waste resulting from these procedures should be handled in accordance with Section 13: Disposal Considerations.

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION (Continued)

Introductory Remarks: (continued)

Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

Exposure Guidelines:

Exposure limits represent regulated or recommended worker breathing zone concentrations measured by validated sampling and analytical methods, meeting the regulatory requirements. The following limits apply to this material, where, if indicated, S= skin and C= ceiling limit:

ALUMINA

	Notes	TWA	STEL
ACGIH		10 mg/cu. m	

Engineering Controls:

Where engineering controls are indicated by use conditions or a potential for excessive exposure exists, the following traditional exposure control techniques may be used to effectively minimize employee exposures: general area dilution/exhaust ventilation, local exhaust ventilation at the point of generation.

Respiratory Protection:

When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations.

Under normal conditions, in the absence of other airborne contaminants, the following devices should provide protection from this material up to the conditions specified by the appropriate OSHA, WHMIS or ANSI standard(s): Air-purifying (half-mask/full-face) respirator with cartridges/canister approved for use against dusts, mists and fumes.

Eye/Face Protection

Eye and face protection requirements will vary dependent upon work environment conditions and material handling practices. Appropriate ANSI Z87 approved equipment should be selected for the particular use intended for this material.

It is generally regarded as good practice to wear a minimum of safety glasses with side shields when working in industrial environments.

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION (Continued)

Skin Protection

Skin contact should be minimized through use of gloves and suitable long-sleeved clothing (i.e. shirts and pants). Consideration must be given both to durability as well as permeation resistance.

Work Practice Controls:

Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material:

- (1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.
- (2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.
- (3) Wash exposed skin promptly to remove accidental splashes of contact with this material.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and chemical properties here represent typical properties of this product. Contact the business area using the Product Information phone number in Section 1 for its exact specifications.

Physical Appearance:

White powder solid

Odour:

Odourless

pH:

Not Applicable

Specific Gravity:

Not Available

Density:

3.3 g/ml at 25°C (77°F).

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9. PHYSICAL AND CHEMICAL PROPERTIES Continued)

Water Solubility:

Insoluble

Melting Point Range:

2050°C (3722°F)

Boiling Point Range:

Not Available

Vapor Pressure:

1 mmHg at 2158°C (3916°F)

Vapor Density:

Not Available

Molecular Weight:

101.96

10. STABILITY AND REACTIVITY

Chemical Stability:

This material is stable under normal handling and storage conditions described in Section 7.

Conditions to be Avoided:

Dusting conditions

Materials/Chemicals to be Avoided:

Strong bases

Strong acids

The Following Hazardous Decomposition Products Might Be Expected:

Decomposition Type: thermal

none known

Hazardous Polymerization Will Not Occur.

Avoid the Following to Inhibit Hazardous Polymerization:

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not applicable

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11. TOXICOLOGICAL INFORMATION

Acute Eye Irritation:

No test data found for product.

Acute Skin Irritation:

No test data found for product.

Acute Dermal Toxicity:

No test data found for product.

Acute Respiratory Irritation:

No test data found for product.

Acute Inhalation Toxicity:

No test data found for product.

Acute Oral Toxicity:

No test data found for product.

Chronic Toxicity:

This product does not contain any substances that are considered by OSHA, NTP, IARC, or ACGIH to be "probable" or "suspected" human carcinogens.

No additional test data found for product.

12. ECOLOGICAL INFORMATION

Ecotoxicological Information:

No data found for product.

Chemical Fate Information:

No data found for product.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method:

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13. DISPOSAL CONSIDERATIONS (Continued)

Waste Management options should first consider possible re-use or recycling opportunities. Some provinces have active "Waste Exchange" networks for re-use and recycling of wastes. Contact your local waste management companies to explore available options. All waste management activities must obey local, provincial and federal regulations. Possible disposal methods include the following:

Stabilize and solidify this material with compatible binders. Then place in a secure landfill

Container Handling and Disposal:

Rinse containers before disposal.

14. TRANSPORTATION INFORMATION

Transportation Status:

The listed Transportation Classification does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors.

TDG Status:

Shipping Name : NON DANGEROUS

IMO Status:

Shipping Name: NOT REGULATED

IATA Status:

Shipping Name: NOT REGULATED

15. REGULATORY INFORMATION

Inventory Status

Inventory
CANADA (DSL)

Status
Y

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15. REGULATORY INFORMATION

WHMIS Classification:

NOT CONTROLLED

This product has been classified in accordance with the hazard criteria of the CPR (Controlled Products Regulations) and the MSDS contains all the information required by the CPR.

16. OTHER INFORMATION

National Fire Protection Association Hazard Ratings - NFPA (R):

- 0 Health Hazard Rating -- Minimal
- 0 Flammability Rating -- Minimal
- 0 Reactivity Rating -- Minimal

National Paint & Coating Hazardous Materials Identification System - HMIS (R):

- 0 Health Hazard Rating -- Minimal
- 0 Flammability Rating -- Minimal
- 0 Reactivity Rating -- Minimal

Key Legend Information:

- ACGIH - American Conference of Governmental Industrial Hygienists
- OSHA - Occupational Safety and Health Administration
- TLV - Threshold Limit Value
- PEL - Permissible Exposure Limit
- TWA - Time Weighted Average
- STEL - Short Term Exposure Limit
- NTP - National Toxicology Program
- IARC - International Agency for Research on Cancer

Disclaimer:

The information herein is given in good faith but no warranty, expressed or implied, is made.