

SAFETY DATA SHEETS

This SDS packet was issued with item:

071048263

The safety data sheets (SDS) in this packet apply to the individual products listed below. Please refer to invoice for specific item number(s).

071365204 071379288

The safety data sheets (SDS) in this packet apply to one or more components included in the items listed below. Items listed below may require one or more SDS. Please refer to invoice for specific item number(s).

071048156 071048164 071048172 071048248

MATERIAL SAFETY DATA SHEET



4011 Hyde Park Blvd.
P. O. Box 1075
Niagara Falls, NY 14302-1075

Telephone: (716) 282-6950

Fax: (716) 282-6971

JANUARY 2013

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME

GAMMA B, ALPHA A, ALPHA C - ALUMINA POWDERS

SECTION 2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

PHYSICAL APPEARANCE: White odorless powder.

POTENTIAL HEALTH

EFFECTS EYES: May
irritate eyes.

SKIN: Not absorbed through skin; may cause abrasions.

INGESTION: No known adverse effects, but ingestion is not recommended.

INHALATION: Acute: Coughing, shortness of breath. Chronic: May affect breathing capacity.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

CHRONIC EFFECTS: No adverse effects expected.

MEDICAL CONDITIONS AGGRAVATED: Not expected to be a health hazard.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt.%	CAS	EINECS
Aluminum oxide	> 99	1344-28-1	215-691-6

SECTION 4. FIRST AID MEASURES

EYES: Irrigate with large amounts of water. Obtain medical assistance.

SKIN: Wash with soap and water. Get medical attention if irritation develops or persists.

INGESTION: Obtain first aid or medical assistance, if needed.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
Get immediate medical attention.

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SECTION 5. FIRE FIGHTING MEASURES

FLASHPOINT AND METHOD: Not Applicable

GENERAL HAZARD: Not considered to be a fire hazard.

EXTINGUISHING MEDIA: Use any means suitable for extinguishing surrounding fire.

EXPLOSION HAZARDS: Not expected to be an explosion hazard.

FIRE FIGHTING PROCEDURES: Use protective clothing and breathing equipment appropriate for the surrounding fire and to control aluminum oxide dust that may be dispersed in the air.

SECTION 6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Normal cleanup procedures, using respirators if necessary. Dispose using applicable federal, state, and local laws.

LARGE SPILL: Normal cleanup procedures, using respirators if necessary. Dispose using applicable federal, state, and local laws.

SECTION 7. HANDLING AND STORAGE

GENERAL PROCEDURES: Handle with adequate ventilation for nuisance dust. See OSHA 29CFR1910.94 (Ventilation) and 29CFR1910.1000 (Air Contaminants).

STORAGE: Store in a cool dry place.

SHELF LIFE: Indefinite.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION**EXPOSURE GUIDELINES**

OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200)							
		EXPOSURE LIMITS					
		OSHA PEL		ACGIH TLV		Supplier OEL	
Chemical Name		ppm	mg/m ³	ppm	mg/m ³	ppm	mg/m ³
Aluminum oxide	TWA	NL ppm ^[1]	15;5 mg/m ³ ^[1]	NL ppm	10 mg/m ³	NL ppm	NL mg/m ³
	STEL	NL ppm	NL mg/m ³	NL ppm	NL mg/m ³	NL ppm	NL mg/m ³
OSHA TABLE COMMENTS:							
1. NL = Not Listed							

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PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: Eye protection is recommended, please see OSHA 29CFR1910.133.

SKIN: Protective gloves, as desired by user.

RESPIRATORY: As needed, an approved dust respirator should be used; see OSHA 29CFR1910.134.

SECTION 9 . PHYSICAL AND CHEMICAL PROPERTIES

Chemical Name Solubility in

Water Specific

Gravity

Aluminum oxide Insoluble 3.9

PHYSICAL STATE: Solid

ODOR: None

APPEARANCE: Fine Powder

COLOR: White

pH: Not Applicable

PERCENT VOLATILE: None

VAPOR PRESSURE: Not Applicable VAPOR DENSITY: Not Applicable BOILING POINT: Not Applicable FREEZING POINT:

Not Applicable MELTING POINT: 2000°C

FLASHPOINT AND METHOD: Not Applicable

SOLUBILITY IN WATER: Insoluble

EVAPORATION RATE: Not Applicable

SPECIFIC GRAVITY: 3.600 to 3.9

VISCOSITY: Not Applicable

WASTE DISPOSAL	Comply with Federal, State and Local Regulations.
HANDLING & STORAGE	Avoid direct sunlight during prolonged storage.
OTHER	HMIS: HEALTH=1 Slight; FLAMMABILITY=0 Minimal;
SECTION VIII-SPECIAL PROTECTION INFORMATION	
VENTILATION	MECHANICAL-Adequate ventilation to reduce levels of
SPECIFIC PERSONAL PROTECTIVE EQUIPMENT	
RESPIRATORY:	Use NIOSH/MSHA approved respirator where dust may
EYE:	Chemical splash goggles.
GLOVES:	Rubber or neoprene gloves.
OTHER CLOTHING & EQUIPMENT	Barrier cream recommended for persons with unusual
WORK-HYGIENIC PRACTICES	Wash thoroughly after handling.

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SECTION 10. STABILITY AND REACTIVITY

STABLE: Yes

HAZARDOUS POLYMERIZATION: No

STABILITY: Stable under ordinary conditions of use and storage.

POLYMERIZATION: Will not occur.

HAZARDOUS DECOMPOSITION PRODUCTS: No Applicable Information Found

INCOMPATIBLE MATERIALS: Chlorine trifluoride, Ethylene oxide.

SECTION 11. TOXICOLOGICAL INFORMATION

EYE EFFECTS: Irritation likely to occur after human eye contact.

SKIN EFFECTS: This material may cause skin sensitization.

CARCINOGENICITY

Chemical Name	NTP Status	IARC Status	OSHA Status
Aluminum oxide	Not known or anticipated to be and NTP carcinogen.	Not listed.	Not listed.

IARC: Not listed.

NTP: Not known or anticipated to be an NTP Carcinogen.

SECTION 12. ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA: No Applicable Information Found

ECOTOXICOLOGICAL INFORMATION: No Applicable Information Found

CHEMICAL FATE INFORMATION: No Applicable Information Found

SECTION 13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

RCRA/EPA WASTE INFORMATION: Not federally regulated.

SECTION 14. DISPOSAL CONSIDERATIONS

DOT (DEPARTMENT OF TRANSPORTATION) U.S. SURFACE FREIGHT CLASS: Not regulated.

OTHER SHIPPING INFORMATION: Not classified as a marine pollutant.

CANADA TRANSPORT OF DANGEROUS GOODS TDG NOTE: Not regulated.

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SECTION 15. DISPOSAL CONSIDERATIONS

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

311/312 HAZARD CATEGORIES: None

FIRE: No PRESSURE GENERATING: No REACTIVITY: No ACUTE: Yes CHRONIC: No

313 REPORTABLE INGREDIENTS: Not listed

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

REGULATORY: Not listed

TSCA (TOXIC SUBSTANCE CONTROL ACT)

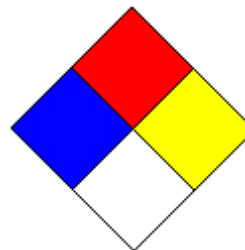
Chemical Name	CAS
Aluminum oxide	1344-28-1

TSCA REGULATORY: Not listed

CANADA

WHMIS (WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM): Listed.

NFPA CODES



CleanStream

Product code: 1295-1

1. Identification

Product identifier

CleanStream

Use of the substance/mixture

Cleaner

Details of the supplier of the safety data sheet

Company name: Air Techniques, Inc.
Street: 1295 Walt Whitman Road,
Place: USA Melville, NY 11747
Telephone: 516-433-7676
Responsible Department: Responsible for the safety data sheet: sds@gbk-ingelheim.de

Emergency phone number: for US and Canada: 1-800 424-9300 (CHEMTREC)

2. Hazard(s) identification

Classification of the chemical

This mixture is not classified as hazardous in accordance with Regulation 29 CFR 1910.1200(d).

Label elements

Not required.

Hazards not otherwise classified

No data available.

3. Composition/information on ingredients

Mixtures

Chemical characterization

Aqueous preparation of the following substances with non-hazardous admixtures.

Hazardous components

CAS No	Components	Quantity
26468-86-0	2-Ethylhexanol ethoxylate	3 - 10 %
28348-53-0	Sodium cumene sulfonate	1 - 5 %
64-02-8	tetrasodium ethylene diamine tetraacetate	1 - 3 %

4. First-aid measures

Description of first aid measures

General information

Remove contaminated soaked clothing immediately.

If threatening unconsciousness, position and transport in recovery position.

In case of breathing difficulties give oxygen.

After inhalation

Ensure of fresh air.

In the event of persistent symptoms receive medical treatment.

After contact with skin

In case of contact with skin wash off with soap and water.

Consult a doctor if skin irritation persists.

After contact with eyes

In case of contact with eyes rinse thoroughly with plenty of water and seek medical advice.

If eye irritation persists consult a physician

After ingestion

Do not induce vomiting.

Summon a doctor immediately.

Most important symptoms and effects, both acute and delayed

OSHA Hazard Communication: This material is not considered hazardous by the OSHA Hazard Communication Standard 29CFR 1910.1200.

Indication of any immediate medical attention and special treatment needed

Treat symptoms.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Foam, Dry powder, Carbon dioxide, Sand.

Unsuitable extinguishing media

Full water jet.

Specific hazards arising from the chemical

Combustion gases of organic material are usually classified as respiratory toxins.

Special protective equipment and precautions for fire-fighters

Fire-fighting operations, rescue and clearing work under effect of combustion and smoulder gases can only be done with breathing apparatus.

Additional information

Cool containers at risk with water spray jet.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep away from heat and sources of ignition.

Attention. Hazard of skidding.

Environmental precautions

Do not discharge into the drains or bodies of water.

Prevent spread over a wide area (e.g. by containment or oil barriers).

Do not discharge into the subsoil/soil.

Methods and material for containment and cleaning up

Take up with absorbent material.

Send in suitable containers for recovery or disposal.

After taking up the material dispose according to regulation.

Reference to other sections

Information for safe handling look up chapter 7.

Information for personal protective equipment look up chapter 8.

Information for disposal look up chapter 13.

Information for specific national regulations see section 15.

7. Handling and storage

Precautions for safe handling

Advice on safe handling

Handle in accordance with good industrial hygiene and safety practice.

When using do not eat or drink.

Avoid contact with the skin and the eyes.

Do not breathe vapours or spray mist.

Wash hands before breaks and at the end of workday.

Advice on protection against fire and explosion

Usual measures for fire prevention.

Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep containers tightly closed in a dry, well-ventilated place.

Protect from heat and direct solar radiation.

Advice on storage compatibility

No information available.

8. Exposure controls/personal protection

Control parameters

Exposure controls

Protective and hygiene measures

Handle in accordance with good industrial hygiene and safety practices.
Avoid contact with the skin.
Cloths contaminated with product should not be kept in trouser pockets.
At work do not eat, drink, smoke or take drugs.
Before work use solvent-resistant skin protection preparation.

Eye/face protection

Safety goggles

Hand protection

Gloves made of nitrile. Neoprene gloves
Glove material must be impermeable and resistant against product / substance / preparation. Gloves material should comply with breakthrough times, permeation rates, and degradation.
Requirements can vary as a function of the use. Therefore it is necessary to adhere additionally to the recommendations given by the manufacturer of protective gloves.

Skin protection

Light protective clothing

Respiratory protection

Not required under normal use.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state:	Liquid
Color:	Clear Blue green
Odor:	Aromatic
pH-Value:	7.0-8.0
pH-Value (2% Solution):	7.0-8.0

Changes in the physical state

Melting point/freezing point:	No information available.
Initial boiling point and boiling range:	>100 °C
Flash point:	Not applicable.
Flammability	No information available.
Explosive properties	No information available.
Lower explosion limits:	No information available.
Ignition temperature:	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature:	No information available.
Oxidizing properties	No information available.
Vapor pressure:	No information available.
Density (at 20 °C):	1.0 g/cm ³
Water solubility:	Completely soluble
Solubility in other solvents	No information available.
Partition coefficient:	No information available.
Viscosity / dynamic:	No information available.
Viscosity / kinematic:	No information available.
Vapor density:	No information available.
Evaporation rate:	No information available.

Other information

No information available.

10. Stability and reactivity

Reactivity

No data available.

Chemical stability

Stability: Stable

Chemically stable.

Possibility of hazardous reactions

Hazardous reactions: Will not occur

No data available.

Conditions to avoid

To avoid thermal decomposition, do not overheat.

Incompatible materials

Not known.

Hazardous decomposition products

Carbon monoxide and carbon dioxide

11. Toxicological information

Information on toxicological effects

Route(s) of Entry

Skin and eye contact, inhalation and ingestion.

Acute toxicity

Based on available data, the classification criteria are not met.

CAS No	Components				
	Exposure route	Method	Dose	Species	Source
28348-53-0	Sodium cumene sulfonate				
	oral	LD50	> 7000 mg/kg	Rat	
	dermal	LD50	> 2000 mg/kg	Rabbit	
64-02-8	tetrasodium ethylene diamine tetraacetate				
	oral	ATE	500 mg/kg		
	inhalative vapour	ATE	11 mg/l		
	inhalative aerosol	ATE	1.5 mg/l		

Irritation and corrosivity

Based on available data, the classification criteria are not met.

Eye irritation (rabbit): Non-irritant, OECD 405.

Sensitizing effects

Based on available data, the classification criteria are not met.

Specific target organ toxicity (STOT) - single exposure

Based on available data, the classification criteria are not met.

Severe effects after repeated or prolonged exposure

Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.

Carcinogenicity (NTP): Not listed

Carcinogenicity (IARC): Not listed

Carcinogenicity (OSHA): Not listed

Aspiration hazard

Based on available data, the classification criteria are not met.

12. Ecological information

Ecotoxicity

No data available.

Persistence and degradability

No data available.

Bioaccumulative potential

No data available.

Mobility in soil

No data available.

Other adverse effects

No data available.

Further information

Do not flush into surface water or sanitary sewer system.
Hazardous water pollutant.

13. Disposal considerations

Waste treatment methods

Advice on disposal

Where possible recycling is preferred to disposal.
Waste disposal according to local regulations.

Contaminated packaging

Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.

Packaging that cannot be cleaned should be disposed of like the product.
Waste disposal according to local regulations.

14. Transport information

US DOT 49 CFR 172.101

Proper shipping name: Not regulated.

15. Regulatory information

U.S. Regulations

National Inventory TSCA

All of the components are listed on the TSCA inventory.

National regulatory information

SARA Section 311/312 Hazards:

2-Ethylhexanol ethoxylate (26468-86-0): Immediate (acute) health hazard

Sodium cumene sulfonate (28348-53-0): Immediate (acute) health hazard

tetrasodium ethylene diamine tetraacetate (64-02-8): Immediate (acute) health hazard

SARA

To the best of our knowledge this product contains no toxic chemicals subject to the supplier notification requirements of Section 313 of the Superfund Amendments and Reauthorization Act (SARA/EPCRA) and the requirements of 40 CFR Part 372.

State Regulations

Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65, State of California)

This product contains no chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

16. Other information

Hazardous Materials Information Label (HMIS)

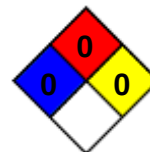
Health:	0
Flammability:	0
Physical Hazard:	0

CleanStream

Product code: 1295-1

NFPA Hazard Ratings

Health: 0
Flammability: 0
Reactivity: 0
Unique Hazard:



Changes

Revision date: 09.06.2016
Revision No: 1,1
Changes in section: 1 - 16.

Abbreviations and acronyms

IMDG = International Maritime Code for Dangerous Goods
IATA/ICAO = International Air Transport Association / International Civil Aviation Organization
MARPOL = International Convention for the Prevention of Pollution from Ships
DOT = Department of Transportation
TDG = Transport of Dangerous Goods

GHS = Globally Harmonized System of Classification and Labelling of Chemicals
CAS = Chemical Abstract Service
ISO = International Organization for Standardization
LD = Lethal dose
LC = Lethal concentration
EC = Effect concentration
IC = Median immobilisation concentration or median inhibitory concentration

Other data

The information in this document is based on the present state of knowledge and is applicable to the product with regard to appropriate safety precautions.
The information describes exclusively the safety requirements for the product (s) and is based on the present level of our knowledge.
The delivery specifications are contained in the corresponding product sheet.
This data does not constitute a guarantee for the characteristics of the product(s) as defined by the legal warranty regulations.
(n.a. = not applicable; n.d. = not determined)

Concawe Report 5/87 Health Aspects of Lubricants DGMK-Bericht 400-7.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)

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1.0 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Aluminum Oxide Powder
 Part Number:
 Manufacturer: Metlab Corporation
 Address: 4011 Hyde Park Blvd.
 City, State, Zip: Niagara Falls NY 14305
 Phone Number: 800-828-6866
 Emergency Phone: 888-255-3924
 Hazardous Spill Response:

2.0 HAZARD IDENTIFICATION

GHS Classification: Non-Hazardous

IDLH (Immediate Danger to Life and Health): None

Physical Hazards: Not Classified

Health Hazards: Classification of the Substance of Mixture (Dry Dust / Inhalation):

Eye Irritation – Category 2B

Label Elements:



Acute Health
Hazards

Signal Word: None

Hazard Statement(s):

H320: Causes Eye Irritation – Category 2B

H332: May be harmful if inhaled.

Precautionary Statements:

P261: Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

Precautionary Response:

P305+P351+P338: **IF IN EYES:** Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313: If eye irritation persists, get medical advice / attention.

P304+P340+P312: **IF INHALED:** Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor / physician if you feel unwell.

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3.0 COMPOSITION & HAZARDOUS INGREDIENTS

The terms "hazardous" and "hazardous materials" as used within this SDS (EU - MSD) should be interpreted as defined by, and accordance with, the OSHA Hazard Communication Standard (29 CFR 1910:1200) and the EU Occupational Exposure Limits (OEL) REGULATION (EC) No 1272/2008 including cited Appendices, Lists, References, etc., all of which are hereby incorporated by reference and stated below as appropriate.

OECD SIDS documents published by UNEP Chemicals in response to its mandate to facilitate the access to information needed for health and environmental risk assessment of chemicals. The documents contain the information gathered and an Initial Assessment performed under the framework of the OECD HPV Chemicals Programme.

Substance	CAS Number	EC Number	Percent by Weight
Aluminum Oxide	1344-28-1	N/A	99.0% - 100.0%
Proprietary Non-Haz Ingredients	N/A	N/A	0.0% - 1.0%

Hazardous Mixtures: None
(See Section 8.0 for Occupational Exposure Limits)

4.0 FIRST AID MEASURES

First-aid measures general :	If medical advice is needed, have product container or label at hand.
First-aid measures after inhalation:	If inhaled, remove to fresh air and keep at rest in a position comfortable for breathing. Obtain medical attention if breathing difficulty persists.
First-aid measures after skin contact:	Rinse immediately with plenty of water. Gently wash with plenty of soap and water. Obtain medical attention if irritation persists.
First-aid measures after eye contact:	Immediately rinse with water for a prolonged period while holding the eyelids wide open. Seek medical attention if material is embedded in eye. If eye irritation persists: Get medical advice and attention.
First-aid measures after ingestion:	If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label. Drink large quantities of water with Milk of Magnesia or other medical antacid. Never give anything by mouth to an unconscious person.
Symptoms/injuries:	Repeated or prolonged inhalation may damage lungs.
Symptoms/injuries after inhalation:	May cause irritation to the respiratory tract, sneezing, coughing, burning sensation of throat with constricting sensation of the larynx and difficulty in breathing.
Symptoms/injuries after skin contact:	Prolonged contact with large amounts of dust may cause mechanical irritation. Dust may cause irritation in skin folds or by contact in combination with tight clothing.
Symptoms/injuries after eye contact:	Redness, pain.
Symptoms/injuries after ingestion:	Abdominal pain.
Chronic symptoms:	Respiratory difficulties.

5.0 FIRE-FIGHTING MEASURES

Fire Hazard:	Will Not Burn
Extinguishing Media:	Use ABC type fire extinguisher for surrounding fire.
Special Firefighting Procedures:	None
Unusual Fire and Explosion Hazards:	None
Reactivity:	None
Protective Equipment for Firefighting:	Self-Contained Breathing Apparatus and clothing for chemical fires.
Protection During Firefighting:	Use normal individual fire protective equipment.

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6.0 ACCIDENTAL RELEASE MEASURES

Personal Precautions / Protective Equipment:

Do not touch damaged containers or spilled material unless wearing appropriate protective equipment. Keep upwind. Keep out of low lying areas. Ventilate closed spaces before entering.

Environmental Precautions: Prevent further leakage or spillage and comply with local, state and federal regulations.

Methods / Materials for Containment & Clean-up:

If product is dry, avoid generation of dust during clean-up of spills. Recover the dried product by vacuuming, shoveling or sweeping. Vacuum must be fitted with HEPA filter to prevent release of particulates during clean-up. Liquid product can be wiped or mopped up and disposed of accordingly.

7.0 HANDLING & STORAGE

Precautions for Safe Handling:

Do not breathe dust. Avoid generation of dust during clean-up of spills. Recover the product by vacuuming, shoveling or sweeping. Vacuum must be fitted with HEPA filter to prevent release of particulates during clean-up.

Wear suitable protective clothing, gloves and eye/face protection. If airborne dust is generated, use the appropriate NIOSH approved respiratory protection.

Conditions for Safe Storage:

Strongly hygroscopic, keep in a dry place. Store in original tightly closed container. Keep away from food, drink and animal feeding stuffs. Use care in handling / storage. Store in accordance with local / regional / national / international regulation. Keep out of reach of children. Always use oldest stock first.

8.0 EXPOSURE CONTROLS & PERSONAL PROTECTION

Control Parameters: Use in accordance with safest practices. **General Requirements for respirable fraction:**

ACGIH TWA (mg/m ³)	15 mg/m ³
ACGIH STEL	15 mg/m ³
ACGIH TLV	15 mg/m ³
NIOSH REL (TWA) (mg/m ³)	5 mg/m ³
OSHA PEL (TWA) (mg/m ³)	15 mg/m ³
(Air Contaminates)	
IDLH (mg/m ³)	Not Hazardous
OECD SIDS UNEP TLV	Not Available
BAuATRGs 900	Not Available

TLV: Threshold Limit Value of a chemical substance is a level to which it is believed a worker can be exposed day after day for a working lifetime without adverse health effects.

TWA: (Time Weighted Average - TLV-TWA): average exposure on the basis of a 8h/day, 40h/week work schedule

STEL: (Short Term Exposure Level) is an employee's 15-minute time weighted average exposure at any time during a work day and cannot be repeated more than 4 times in a day.

Personal Protective Equipment: Use chemical goggles or safety glasses and chemical resistant gloves while handling under normal conditions.

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Respiratory Protection: Use an appropriate NIOSH approved respirator if airborne dust concentrations exceed the appropriate PEL or TLV. All requirements set forth in 29CFR1910.134 must be met.

Protective Gloves: Nitrile gloves are recommended. Frequent change is advisable.

Ventilation: Provide adequate general and local exhaust ventilation.

Eye protection: Chemical / splash goggles are recommended. Eye wash station must be present.

Other Equipment: None

9.0 PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor:	Odorless
Color:	White to Tan
Physical State:	Solid
pH:	7.0 – 9.0 at 20 C
Viscosity:	Not Available
Specific Gravity:	Not Available
Vapor Density:	Not Available
Vapor Pressure:	Not Available
Melting Point:	Not Available
Boiling Point:	Not Available
Flash Point:	Not Applicable
Freezing Point:	Not Available
Percent Volatility:	Not Applicable
Evaporation Rate (baC=1)	Not Available
Solubility in Water:	Not Soluble
Solubility in Oil:	Not Available
Solubility in Solvents:	Not Available

10.0 STABILITY AND REACTIVITY

Reactivity: Hazardous reaction will not occur under normal conditions.

Stability: This composition is stable under normal conditions.

Incompatibility (materials to avoid): Strong Acids, Strong Bases, Oxygen, Nitrates, Halogens

Hazardous Decomposition Products: No Data Available

Hazardous Polymerization: Will not occur.

Conditions to Avoid: Exposure to Moisture

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11.0 TOXICOLOGICAL INFORMATION

Aluminum Oxide – 1344-28-1:

Acute Toxicity – Oral - LD50 – Rat: >10,000 mg / kg

Acute Toxicity: May cause irritation to eyes, skin, and respiratory system.

Skin Corrosion / Irritant: Irritating to skin.

Serious Eye Damage / Irritant: Minimal risk of damage to eyes.

Respiratory / Skin Sensitisation: Not Classified

Germ Cell Mutagenicity: Not Classified

Carcinogenicity: Not Classified

Reproductive Toxicity: Not Classified

Target Organ Toxicity (Single Exposure): No data available.

Target Organ Toxicity (Repeated Exposure): No data available.

Aspiration Hazard: Not Classified

Teratogenicity: Not Classified

12.0 ECOLOGICAL INFORMATION

Ecotoxicity: This product is not expected to be toxic to the environment. Adopt environmental controls to prevent the product from being released into the environment.

Persistence and Degradability: Not readily biodegradable.

Bioaccumulative Potential: Not expected to bioaccumulate

Mobility in Soil: No information available

Other Adverse Effects: No information available

13.0 DISPOSAL CONSIDERATION

You may moisten product to be swept. Dispose in a safe manner in accordance with local, state and federal regulations.

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14.0 TRANSPORT INFORMATION

US DOT Classification: Non-regulated
IMO Classification: Non-regulated
IATA Classification: Non-regulated
Proper Shipping Name: Non-regulated
UN Number: Non-regulated
Packing Group: Non-regulated
Label: Non-regulated
Reportable Quantity: Non-regulated
Hazard Class: Non-regulated

15.0 REGULATORY INFORMATION

U.S. Federal Regulations:
Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA):
 None listed under CERCLA.

Toxic Substance Control Act (TSCA):
 All of the components of this material are listed on the TSCA Chemical Substances Inventory.

Clean Water Act (CWA):
 None listed under sections of the Clean Water Act. Contact your local / state authorities to determine if substances are regulated under their jurisdiction.

Clean Air Act (CAA):
 None listed under the Clean Air Act.

Superfund Amendments and Reauthorization Act (SARA) Title III Information:
 This product contains chemicals subject to annual release reporting requirements Under SARA Title III, Section 313 (40 CFR 372). SARA 311 / 312 Hazards: Acute Health Hazard, Chronic Health Hazard.

EUROPEAN / INTERNATIONAL REGULATIONS:
Control of Substances Hazardous to Health (COSHH):
 Component(s) are listed under various sections of the COSHH regulation. Contact your local authorities to determine if substances are regulated under their jurisdiction.

Scottish Environmental Protection Agency (SEPA):
 Component(s) are listed under various sections of SEPA. Contact your local authorities to determine if substances are regulated under their jurisdiction.

Canada:
 Contact your local authorities to determine if substances are regulated under their jurisdiction.

Hazard Classification
European Union Directives 67/548/EEC and 1999/45/EC
Safety Phrases: S 36 Wear suitable protective clothing.
 S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
 S 38 In case of insufficient ventilation wear suitable respiratory equipment.

U.S. STATE REGULATORY INFORMATION: The components of these products are covered under specific State regulations, as denoted below:

CALIFORNIA PROPOSITION 65: This product does not contain chemicals regulated under California Proposition 65.

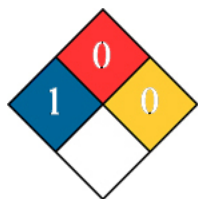
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U.S. - New Jersey – Right to Know Hazardous Substance List – Aluminum Oxide 1344-28-1
U.S. - Massachusetts – Right to Know Hazardous Substance List – Aluminum Oxide 1344-28-1
U.S. - Pennsylvania – Right to Know Hazardous Substance List – Aluminum Oxide 1344-28-1

International Air Transport Authority (IATA): Not regulated

16.0 OTHER INFORMATION

NFPA health hazard 1 - Exposure would cause irritation with only minor residual injury
NFPA fire hazard 0 - Materials that will not burn.
NFPA reactivity 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health 1 - Irritation or minor reversible injury possible.
Flammability 0
Physical 0
Personal Protection B

Reference:

UNEP Publications, OECD SIDS, Chemical Abstract Search (CAS) Database, European Chemicals Agency (ECHA), Workplace Hazard Material Information System (WHMIS)

Key/Legend

ACGIH = American Conference of Governmental Industrial Hygienists; ADR/RID = European Agreement of Dangerous Goods by Road/Rail; DFG = Deutsche Forschungsgemeinschaft; DOT = Department of Transportation; DSL = Domestic Substances List; EEC = European Economic Community; EINECS = European Inventory of Existing Commercial Chemical Substances; ELINCS = European List of Notified Chemical Substances; EU = European Union; WHMIS=Workplace Hazard Material Information System; HMIS = Hazardous Materials Identification System; IARC = International Agency for Research on Cancer; IMO = International Maritime Organization; IATA = International Air Transport Association; MAK = Maximum Concentration Value in the Workplace; NDSL = Non-Domestic Substances List; NFPA = National Fire Protection Association; NTP = National Toxicology Program; STEL = Short-term Exposure Limit; TDG = Transportation of Dangerous Goods; TSCA = Toxic Substances Control Act; TWA = Time Weighted Average

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