



Safety Data Sheet (SDS)

BIO-DEX LABORATOIRES, LLC

Aluminum Sulfate, Granular

SDS Number: 858

Revision Date: 5/23/2017

Page 1 of 8

1 PRODUCT AND COMPANY IDENTIFICATION

Manufacturer

BIO-DEX LABORATOIRES, LLC
4212 W. INNOVATION DR.
PHOENIX, AZ 85086

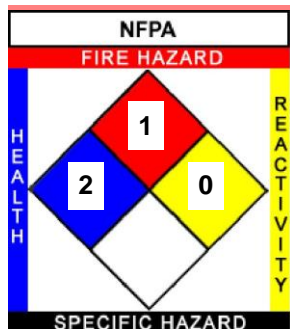
Contact: BIO-DEX LABORATOIRES, LLC
Phone: 800-617-3477 // 623-582-2400
Web: www.bio-dex.com

Product Name: Aluminum Sulfate, Granular
Revision Date: 5/23/2017
Version: 1
SDS Number: CAS 858
Number: Chemical 16828-12-9
Family: Chemical Inorganic salt
Formula: Al₂(SO₄)₃*14H₂O
Synonyms: None
Product Use: Water treatment. Food additive. Various industrial uses.
Emergency Phone: (800) 424-9300 (CHEMTREC)

2 HAZARDS IDENTIFICATION

NFPA:
HMIS III:

Health = 2, Fire = 1, Reactivity = 0
H2/F1/PH0



HMIS III	
HEALTH	2
FLAMMABILITY	1
PHYSICAL HAZARDS	0
PERSONAL PROTECTION B I Safety Glasses, Gloves	

PERSONAL PROTECTION INDEX			
A		G	
B		H	
C		I	
D		J	
E		K	
F		X	Consult your supervisor or S.O.P. for "SPECIAL" handling directions
A		n	
t		U	
o		w	
p		y	
q		z	
r			
s			
Additional information			

GHS Signal Word:
WARNING

GHS Hazard Pictograms:





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SDS Number: 858

Revision Date: 5/23/2017

Page 2 of 8

GHS Classifications:

Health, Skin corrosion/irritation, 2
Health, Serious Eye Damage/Eye Irritation, 2 B

GHS Phrases:

H315 - Causes skin irritation
H320 - Causes eye irritation

GHS Precautionary Statements:

P262 - Do not get in eyes, on skin, or on clothing.
P264 - Wash skin thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P301+312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P303+361+353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+351+338 - IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P332+313 - If skin irritation occurs: Get medical advice/attention.
P337+313 - If eye irritation persists: Get medical advice/attention.
P362 - Take off contaminated clothing and wash before reuse.
P405 - Store locked up.
P501 - Dispose of contents/container to an approved waste disposal plant.

3

COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

Cas #	I	Percentage	I	Chemical Name
-------	---	------------	---	---------------

16828-12-9	I	100%	I	Aluminum sulfate
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4

FIRST AID MEASURES

Inhalation: Give oxygen or artificial respiration if needed. If symptoms develop, move victim to fresh air. If symptoms persist, obtain medical attention.

Skin Contact: Take off contaminated clothing and shoes immediately. Wipe/brush off as much chemical as possible from skin BEFORE flushing skin with water. Promptly flush skin with water for at least 15 minutes to ensure all chemical is removed. If reddening develops and/or persists, obtain medical attention.

Eye Contact: Flush with large amounts of water for at least 15 minutes, lifting upper and lower lids occasionally. Remove contact lenses if present and easy to do so. If eye irritation persists, obtain medical attention.

Ingestion: Rinse mouth with water. Do NOT induce vomiting unless instructed to do so. Give 3-4 glasses of water or milk to dilute stomach contents. Never give anything by mouth to an unconscious person. Contact a Poison Control Center for advice. If symptoms develop and/or persist, obtain medical attention.

Most important symptoms and effects, both acute and delayed:

The most important known symptoms and effects are described in the labelling (see Section 2) and/or Section 11.

Indication of any immediate medical attention and special treatment needed:

No data available.



Aluminum Sulfate, Granular

SDS Number: 858

Revision Date: 5/23/2017

Page 3 of 8

5 FIRE FIGHTING MEASURES

Flammability: Not flammable
Flash Point: DNA
Flash Point Method: DNA
Burning Rate: No data available
Autoignition Temp: No data available
LEL: DNA
UEL: DNA

Extinguishing Media:

Water Spray
Carbon Dioxide
Alcohol-Resistant Foam
Dry Chemical

Special Hazards Arising From the Substance or Mixture:

Aluminum Oxides
Sulfur Oxides

Advice for Firefighters:

Firefighters should wear full-face, positive-pressure respirators.

Further Information:

If incinerated, may release toxic fumes.
Use water spray to cool unopened containers.
See Section 7 for more information on safe handling.
See Section 8 for more information on personal protection equipment.
See Section 13 for disposal information.

6 ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:

Use personal protective equipment.
Keep from contacting skin or eyes.
Avoid dust formation.
Avoid breathing dust.
Ensure adequate ventilation.
Evacuate personnel to safe areas.

Environmental Precautions:

Prevent further release (leakage/spillage) if safe to do so.
Do not allow product to enter drains.
Do not allow to drain to environment.

Methods and Materials for Containments and Cleaning Up:

Pick up and arrange disposal without creating dust.
Sweep up, shovel or collect spillage with an electrically protected vacuum cleaner.
If product was previously diluted in water and in aqueous phase, absorb product with liquid-binding (sand, diatomite, non-aicid clay, sawdust).
Place contaminated material into suitable, closed containers for disposal.



Aluminum Sulfate, Granular

SDS Number: 858

Revision Date: 5/23/2017

Page 4 of 8

Dispose of contaminated material according to Section 13.
After spillage has been collected, area may be flushed with water or wet-brushed.
Ensure adequate ventilation.

Reference to Other Sections:

See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for information on proper disposal.

7

HANDLING AND STORAGE

Handling Precautions:

Wear protective clothing.
Avoid breathing dusts, vapors or mist.
Avoid formation of dusts.
Avoid contact with eyes, skin, or clothing.
Keep containers closed when not in use.
Use approved, original containers only.
Do not expose containers to open flame, excessive heat, or direct sunlight.
Do not puncture or drop containers.
Handle with care and avoid spillage on the floor.
Keep material out of reach of children.
Keep material away from incompatible materials.
Wash thoroughly after handling.
Ensure adequate ventilation.

Storage Requirements:

Keep container tightly closed.
Do not store in direct sunlight.
Store above freezing point.
Store away from strong acids, strong bases, strong oxidizing agents and strong reducing agents.

8

EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls:

All ventilation should be designed in accordance with OSHA standard (29 CFR 1910.94). Use local exhaust at filling zones and where leakage and dust formation is probable. Use mechanical (general) ventilation for storage areas. Use appropriate ventilation as required to keep Exposure Limits in Air below TLV & PEL limits.

Personal Protective Equip:

Eye/face protection:

When using material use safety goggles and gloves according to HMIS PP, B. All safety equipment should be tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Skin protection:

Handle with gloves made from Neoprene, Nitrile, PVC or Buna rubber. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact. Dispose of contaminated gloves according to applicable laws and laboratory practices.

Body Protection:

Chemically resistant gloves and safety goggles are recommended. Type of protective equipment should be selected based on concentration amount and conditions of use of this material.



Aluminum Sulfate, Granular

SDS Number: 858

Revision Date: 5/23/2017

Page 5 of 8

Respiratory protection:

Full-face vapor respirator may be required as backup to engineering controls when proper engineering controls are not in place to keep TLV and PEL limits below defined thresholds. Respiratory protection must comply with 29 CFR 1910.134.

Control of environmental exposure:

Prevent leakage or spillage if safe to do so. Do not let material enter drains.

Components with workplace control parameters:

Contains no substances with occupational exposure limits values.

Biological occupational exposure limits:

Contains no substances with biological occupational exposure limits values.

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	White to Off-White Granules	Odor:	Odorless
Physical State:	Solid	Molecular Formula:	MIXTURE
Odor Threshold:	Not determined	Solubility:	100%
Particle Size:	Not determined	Softening Point:	Not determined
Spec Grav./Density:	Not determined	Percent Volatile:	0.0%
Viscosity:	Not determined	Heat Value:	Not determined
Sat. Vap. Conc.:	Not determined	Freezing/Melting Pt.:	86.0 °C (186.8 °F)
Boiling Point:	117.0 °C (242.6 °F)	Flash Point:	DNA
Flammability:	(solid, gas): Not flammable	Octanol:	Not determined
Partition Coefficient:	Not determined	Vapor Density:	(air = 1): Not determined
Vapor Pressure:	(mm Hg @ 20 °C): Not determined	VOC:	DNA
pH:	@ 100%: > 2.9	Bulk Density:	Not determined
Evap. Rate:	(N-Butyl Acetate = 1): Not determined	Auto-ignition Temp:	Not determined
Molecular weight:	MIXTURE	UFL/LFL:	Not determined
Decomp Temp:	Not determined		

10 STABILITY AND REACTIVITY

Stability:	Product is stable under normal conditions.
Conditions to Avoid:	Incompatibilities, flames, ignition sources.
Materials to Avoid:	Strong acids, strong bases, strong oxidizing agents and strong reducing agents.
Hazardous Decomposition:	Aluminum Oxides and Sulfur Oxides.
Hazardous Polymerization:	Will not occur.



Aluminum Sulfate, Granular

SDS Number: 858

Revision Date: 5/23/2017

Page 6 of 8

11

TOXICOLOGICAL INFORMATION

Component(s): Aluminum sulfate

CAS No(s): 16828-12-9

Acute Toxicity:

LD50 Oral - Rat: 1,930 mg/kg

LD50 Oral - Mouse: 6,207 mg/kg

Skin Corrosion/Irritation: Rabbit skin - Mild skin irritation.

Serious Eye Damage/Eye Irritation: Rabbit eyes - Irritating to eyes.

Respiratory or Skin Sensitation: No data available.

Germ Cell Mutagenicity: No data available.

Carcinogenicity:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive Toxicity: No data available.

Specific Target Organ Toxicity - Single Exposure: Respiratory system - May cause respiratory irritation.

Specific Target Organ Toxicity - Repeated Exposure: No data available.

Aspiration Hazard: No data available.

Additional Information:

Component: Aluminum sulfate; RTECS: BD1700000



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Aluminum Sulfate, Granular

SDS Number: 858

Revision Date: 5/23/2017

Page 7 of 8

12

ECOLOGICAL INFORMATION

Component(s): Aluminum sulfate

CAS No(s): 16828-12-9

Toxicity:

Toxicity to fish:

LC50 - Pimephales promelas (Fathead Minnow): 33.9 mg/l (69 h)

Toxicity to daphnia and other aquatic invertebrates:

EC50 - Daphnia magna (Water Flea): 38.2 mg/l (48 h)

Persistence and Degradability:

No data available.

Bioaccumulative potential:

No data available.

Mobility in Soil:

No data available.

Results of PBT and vPvB assessment:

Not required/conducted.

Other Adverse Effects:

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Toxic to aquatic life with long lasting effects.

13

DISPOSAL CONSIDERATIONS

Product: Hazardous wastes shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution, release into the environment or damage to people and animals. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated Packaging: Dispose of as unused product.

14

TRANSPORT INFORMATION

DOT Class: Miscellaneous (9) #9

UN #: UN 3077, Class: 9, Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s. (Aluminum Sulfate)

DOT (US)

UN Number: 3077

Class: 9

Packing Group: III

ERG #: 171

Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s. (Aluminum Sulfate)

Marine Pollutant: No

Poison Inhalation Hazard(s): No

Reportable Quantity (RQ): 5,000 lbs

IMDG



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SDS Number: 858

Revision Date: 5/23/2017

Page 8 of 8

Non-regulated material, solid

IATA

Non-regulated material, solid

15 REGULATORY INFORMATION

COMPONENT / (CAS/PERC) / CODES

*Aluminum sulfate (16828129 100%) CERCLA, CSWHS, MASS, NJHS, PA, SARA311/312, TSCA

REGULATORY KEY DESCRIPTIONS

CERCLA = Superfund clean up substance
CSWHS = Clean Water Act Hazardous substances
MASS = MA Massachusetts Hazardous Substances List
NJHS = NJ Right-to-Know Hazardous Substances
PA = PA Right-To-Know List of Hazardous Substances
SARA311/312 = SARA 311/312 Toxic Chemicals
TSCA = Toxic Substances Control Act

16 OTHER INFORMATION

Disclaimer:

The data in this Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material in any process. The information set forth herein is furnished free of charge and is based on technical data that BIO-DEX LABORATORIES, LLC believes to be reliable. It is intended for use by persons having technical skill and at their own discretion and risk. Since conditions of use are outside of BIO-DEX LABORATORIES, LLC's control, BIO-DEX LABORATORIES, LLC. makes no warranties, expressed or implied, and assumes no liability in connection with any use of this information. Nothing herein is to be taken as a license to operate under, or a recommendation to infringe upon, any patents.

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