

*****Section 1 - PRODUCT AND COMPANY IDENTIFICATION*****

Material Name: BARIUM NITRATE

Manufacturer Information

BASSTECH INTERNATIONAL LLC
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Emergency #: CHEMTREC: 800-424-9300
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Chemical Family

inorganic, salt

Synonyms

BARIUM DINITRATE; NITRIC ACID, BARIUM SALT; NITROBARITE; NITRATE OF BARIUM; BARIUM(II) NITRATE; BARIUM NITRATE (Ba(NO₃)₂); NITRIC ACID BARIUM SALT (2:1); UN 1446; B-53; BAN2O6; RTECS: CQ9625000

*****Section 2 - HAZARDS IDENTIFICATION*****

EMERGENCY OVERVIEW

Color: colorless or white
Physical Form: crystals
Odor: odorless
Health Hazards: harmful if swallowed, eye irritation
Physical Hazards: May ignite combustibles.

POTENTIAL HEALTH EFFECTS

Inhalation

Short Term: irritation, difficulty breathing
Long Term: no information is available

Skin

Short Term: irritation
Long Term: no information is available

Eye

Short Term: irritation
Long Term: irritation

Ingestion

Short Term: gastrointestinal irritation, metallic taste, changes in blood pressure, ringing in the ears, nausea, vomiting, digestive disorders, diarrhea, drowsiness, dizziness, tremors, blurred vision, kidney damage, paralysis
Long Term: bluish skin color, blood disorders

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*****Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS*****

CAS #	Component	Percent	Symbol(s)	Risk Phrase(s)
10022-31-8	BARIUM NITRATE 233-020-5	100	Xn	R:20/22

Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: Barium compounds, inorganic, Barium compounds, n.o.s., Barium salts, with the exception of barium sulphate, barium sulphide under the conditions laid down in Annex II, Part 1 and lakes salts and pigments prepared from the coloring agents listed with the reference '5' in Annex II, Part 2 and Annex IV, Part 2.

*****Section 4 - FIRST AID MEASURES*****

Inhalation

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.

Skin

Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

Eyes

Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Ingestion

If swallowed, drink plenty of water, do NOT induce vomiting. Get immediate medical attention. Induce vomiting only at the instructions of a physician. Do not give anything by mouth to unconscious or convulsive person.

Note to Physicians

For ingestion, consider gastric lavage.

Antidote

sodium sulfate solution, oral, gastric tube; potassium.

*****Section 5 - FIRE FIGHTING MEASURES*****

See Section 9 for Flammability Properties

NFPA Ratings: Health: 2 Fire: 0 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Flammable Properties

Negligible fire hazard. Oxidizer. May ignite or explode on contact with combustible materials.

Extinguishing Media

water

Large fires: Flood with water. Apply water from a protected location or from a safe distance.

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Fire Fighting Measures

Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. Flood with water. Cool containers with water spray until well after the fire is out. Apply water from a protected location or from a safe distance. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Evacuate if fire gets out of control or containers are directly exposed to fire. Evacuation radius: 800 meters (1/2 mile).

*****Section 6 - ACCIDENTAL RELEASE MEASURES*****

Occupational spill/release

Avoid contact with combustible materials. Do not touch spilled material. Small dry spills: Collect spilled material in appropriate container for disposal. Move containers away from spill to a safe area. **Large spills:** Dike for later disposal. Keep unnecessary people away, isolate hazard area and deny entry.

*****Section 7 - HANDLING AND STORAGE*****

Handling Procedures

Use methods to minimize dust.

Storage Procedures

Store and handle in accordance with all current regulations and standards. NFPA 430 Code for the Storage of Liquid and Solid Oxidizing Materials. Protect from physical damage. Avoid storage on wooden floors. Keep separated from incompatible substances.

*****Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION*****

Component Exposure Limits

BARIUM NITRATE (10022-31-8)

NIOSH: 0.5 mg/m3 TWA (as Ba)

Biological Limit Values

Biological Limit Values have not developed for any of component(s) of this material.

IDLH

50 mg/m3

Ventilation

Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

Eyes/Face

Wear splash resistant safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Protective Clothing

Wear appropriate chemical resistant clothing.

Glove Recommendations

Wear appropriate chemical resistant gloves.

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Respiratory Protection

The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA.

Measurement Element:

Barium (Ba)

5 mg/m³

Any particulate respirator equipped with an N95, R95, or P95 filter (including N95, R95, and P95 filtering facepieces) except quarter-mask respirators. The following filters may also be used: N99, R99, P99, N100, R100 or P100.

Any supplied-air respirator.

12.5 mg/m³

Any supplied-air respirator operated in a continuous-flow mode.

Any powered, air-purifying respirator with a high-efficiency particulate filter.

25 mg/m³

Any air-purifying, full-facepiece respirator equipped with an N100, R100, or P100 filter.

Any supplied-air respirator with a tight-fitting facepiece that is operated in a continuous-flow mode.

Any powered, air-purifying respirator with a tight-fitting facepiece and a high-efficiency particulate filter.

Any self-contained breathing apparatus with a full facepiece.

Any supplied-air respirator with a full facepiece.

50 mg/m³

Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode.

Emergency or planned entry into unknown concentrations or IDLH conditions -

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

Escape -

Any air-purifying, full-facepiece respirator equipped with an N100, R100, or P100 filter.

Any appropriate escape-type, self-contained breathing apparatus.

*****Section 9 - PHYSICAL AND CHEMICAL PROPERTIES*****

Physical State:	Solid	Appearance:	lustrous
Color:	colorless or white	Physical Form:	crystals
Odor:	odorless	Odor Threshold:	Not available
pH:	5.0 - 8.0	pH (solution):	5 %
Melting Point:	592 °C	Boiling Point:	decomposes
Vapor Pressure:	Not applicable	Vapor Density (air = 1):	Not applicable
Density:	Not available	Specific Gravity (water = 1):	3.24 23 @ °C
Water Solubility:	8.7 % @ 20 °C	Coeff. Water/Oil Dist:	Not available
Molecular Weight:	261.35	Molecular Formula:	Ba-(N-O3)2

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Solvent Solubility

Slightly Soluble: acids

Very Slightly Soluble: acetone

Insoluble: alcohol

*****Section 10 - STABILITY AND REACTIVITY*****

Chemical Stability

Stable at normal temperatures and pressure.

Conditions to Avoid

Avoid contact with combustible materials. Minimize contact with material.

Materials to Avoid

metals, combustible materials, reducing agents, acids, metal salts

Decomposition Products

oxides of nitrogen, oxides of barium

Possibility of Hazardous Reactions

Will not polymerize.

*****Section 11 - TOXICOLOGICAL INFORMATION*****

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

BARIUM NITRATE (10022-31-8)

Oral LD50 Rat 355 mg/kg

RTECS Acute Toxicity (selected)

The components of this material have been reviewed, and RTECS publishes the following endpoints:

BARIUM NITRATE (10022-31-8)

Oral: 390 mg/kg Oral Rat LD50; 355 mg/kg Oral Rat LD50

Acute Toxicity Level

BARIUM NITRATE (10022-31-8)

Toxic: ingestion

Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, OSHA, NTP, or DFG.

RTECS Irritation

The components of this material have been reviewed, and RTECS publishes the following endpoints:

BARIUM NITRATE (10022-31-8)

100 mg/24 hour Eyes Rabbit moderate; 500 mg/24 hour Skin Rabbit mild

Local Effects

BARIUM NITRATE (10022-31-8)

Irritant: eye

Medical Conditions Aggravated by Exposure

heart or cardiovascular disorders, respiratory disorders, skin disorders and allergies

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RTECS Tumorigenic

No data available.

RTECS Mutagenic

No data available.

RTECS Reproductive Effects

No data available.

*****Section 12 - ECOLOGICAL INFORMATION*****

Component Analysis - Aquatic Toxicity

No LOLI ecotoxicity data are available for this product's components.

*****Section 13 - DISPOSAL CONSIDERATIONS*****

Disposal Methods

Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001. Hazardous Waste Number(s): D005. Dispose of in accordance with U.S. EPA 40 CFR 262 for concentrations at or above the Regulatory level. Regulatory level- 100.0 mg/L.

Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components.

*****Section 14 - TRANSPORT INFORMATION*****

US DOT Information

Shipping Name: Barium nitrate
UN/NA #: UN1446 **Hazard Class:** 5.1 **Packing Group:** II
Required Label(s): 5.1, 6.1

TDG Information

Shipping Name: Barium nitrate
UN #: UN1446 **Hazard Class:** 5.1 **Packing Group:** II
Required Label(s): 5.1, (6.1)

ADR Information

Shipping Name: Barium nitrate
UN #: UN1446 **Hazard Class:** 5.1 **Packing Group:** II
Required Label(s): 5.1, 6.1

RID Information

Shipping Name: Barium nitrate
UN #: UN1446 **Hazard Class:** 5.1 **Packing Group:** II
Required Label(s): 5.1, 6.1

IATA Information

Shipping Name: Barium nitrate

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UN #: UN1446 **Hazard Class:** 5.1 **Packing Group:** II
Required Label(s): 5.1, 6.1

ICAO Information

Shipping Name: Barium nitrate
UN #: UN1446 **Hazard Class:** 5.1 **Packing Group:** II
Required Label(s): 5.1, 6.1

IMDG Information

Shipping Name: Barium nitrate
UN #: UN1446 **Hazard Class:** 5.1 **Packing Group:** II
Required Label(s): 6.1

*****Section 15 - REGULATORY INFORMATION*****

U.S. Federal Regulations

This material contains one or more of the following chemicals required to be identified under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

BARIUM NITRATE (10022-31-8)

SARA 313: 1.0 % de minimis concentration (does not include Barium sulfate CAS 7727-43-7, Chemical Category N040, related to Barium compounds, n.o.s.)

SARA 311/312

Acute Health: Yes **Chronic Health:** No **Fire:** Yes **Pressure:** No **Reactive:** No

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
BARIUM NITRATE	10022-31-8	No	Yes	No	Yes	Yes

Not regulated under California Proposition 65

Canadian Regulations

Canadian WHMIS Ingredient Disclosure List (IDL)

Components of this material have been checked against the Canadian WHMIS Ingredients Disclosure List. The List is composed of chemicals which must be identified on MSDSs if they are included in products which fall under WHMIS criteria specified in the Controlled Products Regulations and present above the threshold limits listed on the IDL.

BARIUM NITRATE (10022-31-8)

1 %

EU Marking and Labelling

EC-No. 233-020-5

Symbols

Xn Harmful

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Risk Phrases

R20/22 Harmful by inhalation and if swallowed.

Safety Phrases

- S2** Keep out of the reach of children.
- S13** Keep away from food, drink and animal feedingstuffs.
- S24** Avoid contact with skin.
- S25** Avoid contact with eyes.
- S26** In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S36** Wear suitable protective clothing.
- S46** If swallowed, seek medical advice immediately and show this container or label.

Germany Water Classification

BARIUM NITRATE (10022-31-8)

ID Number 304, hazard class 1 - low hazard to waters

Component Analysis - Inventory

Component	CAS	US	CA	EU	AU	PH	JP	KR	CN	NZ
BARIUM NITRATE	10022-31-8	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes

*****Section 16 - OTHER INFORMATION*****

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; RID - European Rail Transport; RTECS - Registry of Toxic Effects of Chemical Substances®; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States

Component Analysis

R20/22 Harmful by inhalation and if swallowed.

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Other Information

Disclaimer: Supplier gives no warranty of merchantability or of fitness for a particular purpose. Any product purchased is sold on the assumption the purchaser will make his own tests to determine the quality and suitability of the product. Supplier expressly disclaims any and all liability for incidental and/or consequential property damage arising out of the use of this product. No information provided shall be deemed to be a recommendation to use any product in conflict with any existing patent rights. Read the Material Safety Data Sheet before handling product.

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