Printing date 07/18/2021

CHEMICALS, INC

Reviewed on 07/18/2021

1 Identification

- · Product name
- · Trade name: Barium carbonate (99.999%-Ba) PURATREM
- Item number: 56-1025
- · CAS Number:
- 513-77-9 • **EC number:**
- 208-167-3
- Index number: 056-003-00-2
- \cdot Details of the supplier of the safety data sheet
- Manufacturer/Supplier: Strem Chemicals, Inc.
 7 Mulliken Way NEWBURYPORT, MA 01950 USA info@strem.com
- · Information department: Technical Department
- Emergency telephone number: EMERGENCY: CHEMTREC: + 1 (800) 424-9300 During normal opening times: +1 (978) 499-1600

2 Hazard(s) identification

· Classification of the substance or mixture

Acute Tox. 4 H302 Harmful if swallowed.

- · Label elements
- · GHS label elements
- *The substance is classified and labeled according to the Globally Harmonized System (GHS). Hazard pictograms*



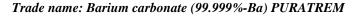
· Signal word Warning

	ining components of labeling:
barium carbond	ite
· Hazard stateme	ents
H302 Harmful	if swallowed.
· Precautionary	statements
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray
P305+P351+P	338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
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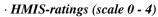
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(Contd. of page 1) Dispose of contents/container in accordance with local/regional/national/international regulations. · Classification system: · NFPA ratings (scale 0 - 4)





HEALTH	2	Health = 2
		Fire = 0
REACTIVITY	0	Reactivity = 0

· Other hazards

· Results of PBT and vPvB assessment

· **PBT:** Not applicable.

· vPvB: Not applicable.

3 Composition/information on ingredients

- · Chemical characterization: Substances
- · CAS No. Description
- 513-77-9 barium carbonate
- Identification number(s)
- · EC number: 208-167-3
- Index number: 056-003-00-2

4 First-aid measures

- · Description of first aid measures
- · General information:
- Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- After inhalation: Supply fresh air; consult doctor in case of complaints.
- After skin contact: Immediately rinse with water.
- After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
- · After swallowing: Immediately call a doctor.
- · Information for doctor:
- · Most important symptoms and effects, both acute and delayed No further relevant information available.
- · Indication of any immediate medical attention and special treatment needed
- No further relevant information available.

5 Fire-fighting measures

- · Extinguishing media
- Suitable extinguishing agents: Use fire fighting measures that suit the environment.
- Special hazards arising from the substance or mixture No further relevant information available.

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· Advice for firefighters

· Protective equipment: No special measures required.

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures Not required.

· Environmental precautions:

Do not allow product to reach sewage system or any water course.

- Inform respective authorities in case of seepage into water course or sewage system.
- Methods and material for containment and cleaning up:

Dispose contaminated material as waste according to item 13. 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 disposal information.

· Protective Action Criteria for Chemicals

· PAC-1:

2.2 mg/m3

· PAC-2:

· PAC-3:

270 mg/m3

1,600 mg/m3

7 Handling and storage

- · Handling:
- *Precautions for safe handling Ensure good ventilation/exhaustion at the workplace.*
- · Information about protection against explosions and fires: No special measures required.
- · Conditions for safe storage, including any incompatibilities
- · Storage:
- Requirements to be met by storerooms and receptacles: No special requirements.
- · Information about storage in one common storage facility: Not required.
- · Further information about storage conditions: None.
- Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

• Additional information about design of technical systems: No further data; see item 7.

· Control parameters

· Components with limit values that require monitoring at the workplace:

513-77-9 barium carbonate

PEL Long-term value: 0.5 mg/m³

- as Ba
- REL Long-term value: 0.5 mg/m³

as Ba

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TLV	Long-term	value:	0.5	mg/m³	
-----	-----------	--------	-----	-------	--

as Ba

· Additional information: The lists that were valid during the creation were used as basis.

· Exposure controls

- · Personal protective equipment:
- General protective and hygienic measures: Wash hands before breaks and at the end of work.
- Breathing equipment: A NIOSH approved respirator in accordance with 29 CFR 1910.134.
- · Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation • Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Eye protection: Safety glasses

Information on basic physical and General Information	chemical properties	
Appearance:		
Form:	Powder	
Color:	White	
Odor:	Odorless	
Odor threshold:	Not determined.	
pH-value:	Not applicable.	
Change in condition Melting point/Melting range: Boiling point/Boiling range:	811 °C (1492 °F) 1.300 °C (34 °F)	
Flash point:	Not applicable.	
Flammability (solid, gaseous):	Not determined.	
Ignition temperature:		
Decomposition temperature:	Not determined.	
Auto igniting:	Not determined.	
Danger of explosion:	Product does not present an explosion hazard.	
Explosion limits:		
Lower:	Not determined.	
Upper:	Not determined.	

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· Vapor pressure:	Not applicable.	
• Density at 20 •C (68 •F):	4.43 g/cm ³ (36.96835 lbs/gal)	
· Relative density	Not determined.	
· Vapor density	Not applicable.	
· Evaporation rate	Not applicable.	
• Solubility in / Miscibility with Water at 20 °C (68 °F):	0.02 g/l	
· Partition coefficient (n-octanol/wa	ter): Not determined.	
· Viscosity:		
Dynamic:	Not applicable.	
Kinematic:	Not applicable.	
· Solvent content:		
Organic solvents:	0.0 %	
VOC content:	0.0 g/l / 0.00 lb/gl	
Solids content:	100.0 %	
• Other information	No further relevant information available.	

10 Stability and reactivity

· Reactivity No further relevant information available.

- · Chemical stability
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- · Possibility of hazardous reactions No dangerous reactions known.
- · Conditions to avoid No further relevant information available.
- · Incompatible materials: No further relevant information available.
- · Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

- · Information on toxicological effects
- · Acute toxicity:
- · LD/LC50 values that are relevant for classification:

Oral LD50 418 mg/kg (rat)

513-77-9 barium carbonate

Oral LD50 418 mg/kg (rat)

- Primary irritant effect:
- on the skin: No irritant effect.

• on the eye: No irritating effect.

- Sensitization: No sensitizing effects known.
- Additional toxicological information:

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

Substance is not listed.

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- \cdot NTP (National Toxicology Program)
- Substance is not listed.
- · OSHA-Ca (Occupational Safety & Health Administration)
- Substance is not listed.

12 Ecological information

· Toxicity

- · Aquatic toxicity: No further relevant information available.
- · Persistence and degradability No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- · Mobility in soil No further relevant information available.
- · Additional ecological information:
- · General notes: Not known to be hazardous to water.
- · Results of PBT and vPvB assessment
- **PBT:** Not applicable.
- · **vPvB:** Not applicable.
- · Other adverse effects No further relevant information available.

13 Disposal considerations

- Waste treatment methods
- · Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- · Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.

· UN-Number		
· DOT, IMDG, IATA	UN1564	
\cdot UN proper shipping name		
$\cdot DOT$	Barium compounds, n.o.s.	
· IMDG, IATA	BARIUM COMPOUND, N.O.S.	
· Transport hazard class(es)		
·DOT		
TOXIC 6		
· Class	6.1 Toxic substances	

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	(Contd. of pag
Label	6.1
IMDG, IATA	
A	
Class	6.1 Toxic substances
Label	6.1
Packing group	
DOT, IMDG, IATA	III
Environmental hazards:	
Marine pollutant:	No
Special precautions for user	Not applicable.
Danger code (Kemler):	60
Stowage Category	Α
Transport in bulk according to Annex	
MARPOL73/78 and the IBC Code	Not applicable.
Transport/Additional information:	
DOT	
Quantity limitations	On passenger aircraft/rail: 100 kg
	On cargo aircraft only: 200 kg
IMDG	
Limited quantities (LQ)	5 kg
Excepted quantities $(\widetilde{E}Q)$	Code: E1
	Maximum net quantity per inner packaging: 30 g
	Maximum net quantity per outer packaging: 1000 g
UN ''Model Regulation'':	UN 1564 BARIUM COMPOUNDS, N.O.S., 6.1, III

15 Regulatory information

 \cdot Safety, health and environmental regulations/legislation specific for the substance or mixture \cdot Sara

· Section 355 (extremely hazardous substances):

Substance is not listed.

· Section 313 (Specific toxic chemical listings):

Substance is listed.

· TSCA (Toxic Substances Control Act):

Substance is listed.

· Proposition 65

· Chemicals known to cause cancer:

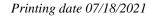
Substance is not listed.

· Chemicals known to cause reproductive toxicity for females:

Substance is not listed.

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· Chemicals known to cause reproductive toxicity for males:

Substance is not listed.

· Chemicals known to cause developmental toxicity:

Substance is not listed.

· Carcinogenic categories

· EPA (Environmental Protection Agency)

D, CBD(inh), NL(oral)

A4

• TLV (Threshold Limit Value established by ACGIH)

· NIOSH-Ca (National Institute for Occupational Safety and Health)

Substance is not listed.

· GHS label elements

- The substance is classified and labeled according to the Globally Harmonized System (GHS).
- Hazard pictograms



· Signal word Warning

· Hazard-determining components of labeling:

barium carbonate

• Hazard statements

H302 Harmful if swallowed.

· Precautionary statements

P280	Wear protective gloves/protective clothing/eye protection/face protection.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray
P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present

and easy to do. Continue rinsing.

P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Department issuing SDS: Technical Department.

- · Contact: Technical Director
- · Date of preparation / last revision 07/18/2021 / -
- Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances



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	(Contd. o
CAS: Chemical Abstracts Service (division of the American Chemical Society)	
NFPA: National Fire Protection Association (USA)	
HMIS: Hazardous Materials Identification System (USA)	
VOC: Volatile Organic Compounds (USA, EU)	
LC50: Lethal concentration, 50 percent	
LD50: Lethal dose, 50 percent	
PBT: Persistent, Bioaccumulative and Toxic	
vPvB: very Persistent and very Bioaccumulative	
NIOSH: National Institute for Occupational Safety	
OSHA: Occupational Safety & Health	
TLV: Threshold Limit Value	
PEL: Permissible Exposure Limit	
REL: Recommended Exposure Limit	
Acute Tox. 4: Acute toxicity – Category 4	

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US