

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**Product identifier****Product name** Sulfate Reagent**Other means of identification****Product Code(s)** V-6277**UN-No** 1564**Recommended use of the chemical and restrictions on use****Recommended Use** Use as a laboratory reagent. Laboratory chemicals. Industrial (not for food or food contact use).**Details of the supplier of the safety data sheet****Manufacturer Address**LaMotte Company, Inc.
802 Washington Avenue
P.O. Box 329
Chestertown, MD 21620 USA
T 410-778-3100
F 410-778-9748**Emergency telephone numbers**

(CHEM-TEL):USA, Canada, Puerto Rico 1-800-255-3924 Outside North American Continent (Call collect) 813-248-0585

2. HAZARDS IDENTIFICATION

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4

EMERGENCY OVERVIEW**WARNING****Hazard statements**

Harmful if swallowed. Harmful if inhaled.

**Appearance** White**Physical state** powder**Odor** None**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse.

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.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.

Storage:

Store in a well-ventilated place. Keep cool.

Disposal:

Dispose of contents/container to an approved waste disposal plant.

Other Hazards

Harmful to aquatic life with long lasting effects.

3. COMPOSITION/INFORMATION ON INGREDIENTS*

Chemical name	CAS No.	Weight-%
Gum arabic	9000-01-5	4
Barium chloride dihydrate	10326-27-9	36
Citric acid monohydrate	5949-29-1	60

4. FIRST AID MEASURES**First Aid Measures****General advice**

Show this safety data sheet to the doctor in attendance. Do not get in eyes, on skin, or on clothing. Do not breathe dust/fume/gas/mist/vapors/spray.

Eye contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.

Skin contact	Wash off immediately with soap and plenty of water for at least 15 minutes. Take off contaminated clothing and wash before reuse. If symptoms persist, call a physician.
Inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician immediately.
Ingestion	Induce vomiting, but only if victim is fully conscious. Call a physician immediately. Never give anything by mouth to an unconscious person.
<u>Self-protection of the first aider</u>	Use personal protection recommended in Section 8. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

5. FIREFIGHTING MEASURES

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions	Ensure adequate ventilation. Use personal protection recommended in Section 8. Avoid contact with skin, eyes or clothing.
Environmental precautions	Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment	Dispose of contents/containers in accordance with local regulations. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).
Methods for cleaning up	Clean contaminated surface thoroughly. Following product recovery, flush area with water.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling	Ensure adequate ventilation. Avoid contact with eyes, skin and clothing. Do not eat, drink or smoke when using this product. See section 8.
<u>Conditions for safe storage, including any incompatibilities</u>	
Storage:	Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep away from heat.
Incompatible Products	Strong oxidizing agents. Acids.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
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Gum arabic 9000-01-5	*-	*-	Not Established
Barium chloride dihydrate 10326-27-9	TWA: 0.5 mg/m ³ Ba	TWA: 0.5 mg/m ³ Ba (vacated) TWA: 0.5 mg/m ³ Ba	IDLH: 50 mg/m ³ Ba TWA: 0.5 mg/m ³ Ba TWA: 0.5 mg/m ³ except Barium sulfate Ba
Citric acid monohydrate 5949-29-1	*-	*-	Not Established

Appropriate engineering controls

Engineering Measures Showers
 Eyewash stations
 Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Wear safety glasses with side shields (or goggles).

Skin and body protection Gloves & Lab Coat. Impervious clothing. Protective gloves. Nitrile rubber.

Respiratory protection Handle in an enclosing hood with exhaust ventilation. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hygiene Measures Do not eat, drink or smoke when using this product.

9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

Physical state powder
Appearance White **Odor** None

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	3	(0.1g/10mL water)
Melting point / freezing point	No information available	
Boiling point / boiling range	No information available	
Flash point	Not Applicable	
Evaporation rate		
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Specific gravity	No information available	
Water solubility	No information available	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point No information available
Molecular weight No information available
VOC Content (%) No information available
Density No information available
Bulk density No information available

10. STABILITY AND REACTIVITY

Stability	Stable under recommended storage conditions.
Hazardous Reactions	Contact with acids liberates very toxic gas.
Hazardous polymerization	Hazardous polymerization does not occur.
Conditions to avoid	Incompatible Products.
Incompatible materials	Strong oxidizing agents. Acids.
Hazardous decomposition products	Hydrogen chloride. Carbon oxides (COx). Barium oxides.

11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure****Component identification**

Chemical name	ATEmix (oral)	ATEmix (dermal)	Inhalation LC50
Gum arabic 9000-01-5	> 16 g/kg (Rat)	Not Established	Not Established
Barium chloride dihydrate 10326-27-9	= 118 mg/kg (Rat)	Not Established	Not Established
Citric acid monohydrate 5949-29-1	= 3000 mg/kg (Rat) = 3 g/kg (Rat)	Not Established	Not Established

Information on toxicological effects

Chemical name	ACGIH	IARC	NTP	OSHA
Gum arabic 9000-01-5	Not Established	Not Established	Not Established	Not Established
Barium chloride dihydrate 10326-27-9	Not Established	Not Established	Not Established	Not Established
Citric acid monohydrate 5949-29-1	Not Established	Not Established	Not Established	Not Established

Chronic toxicity Repeated ingestion has caused liver and kidney damage in animals.

ATEmix (oral)	307.00 mg/kg
ATEmix (inhalation-dust/mist)	4.20 mg/l

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Unknown Aquatic Toxicity 4 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical name	Toxicity to Algae	Toxicity to Fish	Daphnia Magna (Water Flea)
Gum arabic 9000-01-5	Not Established	Not Established	Not Established
Barium chloride dihydrate 10326-27-9	Not Established	Not Established	14.5: 48 h Daphnia magna mg/L EC50
Citric acid monohydrate 5949-29-1	Not Established	1516: 96 h Lepomis macrochirus mg/L LC50 static	120: 72 h Daphnia magna mg/L EC50

Persistence and degradability

No information available.

Bioaccumulation/Accumulation

No information available.

Chemical name	Log Pow
Gum arabic 9000-01-5	Not Established
Barium chloride dihydrate 10326-27-9	Not Established

Citric acid monohydrate 5949-29-1	-1.72
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13. DISPOSAL CONSIDERATIONS

Disposal Methods This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261). Dispose according to federal, state, and local regulations.

Contaminated packaging Do not reuse empty containers.

Chemical name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Gum arabic 9000-01-5	Not Established	-	Not Established	Not Established
Barium chloride dihydrate 10326-27-9	Not Established	-	Not Established	Not Established
Citric acid monohydrate 5949-29-1	Not Established	-	Not Established	Not Established

Chemical name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Gum arabic 9000-01-5	Not Established	Not Established	Not Established	Not Established
Barium chloride dihydrate 10326-27-9	Not Established	Not Established	Not Established	Not Established
Citric acid monohydrate 5949-29-1	Not Established	Not Established	Not Established	Not Established

Chemical name	California Hazardous Waste Status
Gum arabic 9000-01-5	*_
Barium chloride dihydrate 10326-27-9	Toxic
Citric acid monohydrate 5949-29-1	*_

14. TRANSPORT INFORMATION

DOT

Proper shipping name BARIUM COMPOUNDS, N.O.S. (30% Barium chloride)
UN-No 1564
Hazard Class 6.1
Packing group III

UN-No 1564
Proper shipping name BARIUM COMPOUND, N.O.S. (36% Barium Sulfate)
Hazard Class 6.1
Packing group III

IATA

UN-No 1564
Proper shipping name BARIUM COMPOUND, N.O.S. (36% Barium Sulfate)
Hazard Class 6.1
Packing group III

IMDG/IMO

UN-No 1564
Proper shipping name BARIUM COMPOUND, N.O.S. (36% Barium Sulfate)
Hazard Class 6.1
Packing group III

15. REGULATORY INFORMATION**International Inventories**

TSCA	Complies
DSL/NDL	Does not comply
EINECS/ELINCS	Does not comply
ENCS	Does not comply
IECSC	Complies
KECL	Does not comply
PICCS	Complies
AICS	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	SARA 313 - Threshold Values %
Gum arabic 9000-01-5	Not Established
Barium chloride dihydrate 10326-27-9	1.0
Citric acid monohydrate 5949-29-1	Not Established

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Gum arabic 9000-01-5	Not Established	Not Established	Not Established	Not Established
Barium chloride dihydrate 10326-27-9	Not Established	Not Established	Not Established	Not Established
Citric acid monohydrate 5949-29-1	Not Established	Not Established	Not Established	Not Established

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	RQ
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Gum arabic 9000-01-5	*-	Not Established	-
Barium chloride dihydrate 10326-27-9	*-	Not Established	-
Citric acid monohydrate 5949-29-1	*-	Not Established	-

US State Regulations

This product does not contain any Proposition 65 chemicals.

Chemical name	California Proposition 65
Gum arabic 9000-01-5	Not Established
Barium chloride dihydrate 10326-27-9	Not Established
Citric acid monohydrate 5949-29-1	Not Established

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Gum arabic 9000-01-5	Not Established	Not Established	Not Established
Barium chloride dihydrate 10326-27-9	X	Not Established	X
Citric acid monohydrate 5949-29-1	Not Established	Not Established	Not Established

CPSC (Consumer Product Safety Commission) - Specially Regulated Substances**16. OTHER INFORMATION****NFPA**

Health hazard 3

Flammability 0

Instability 0

Physical and Chemical
Hazards N/A

Health hazard 3

Stability 1



Health Hazard	3
Fire Hazard	0
Reactivity	1

Prepared by
Issuing Date
Disclaimer

Regulatory Affairs Department
Feb-12-2016

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet