

SAFETY DATA SHEET

Issuing Date January 5, 2024

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Revision Number 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name **Cholic Acid Conjugated Pooled Standards**

Other means of identification Mixture of 22 cholic acid amidates (amino acid conjugates) plus unconjugated cholic acid

CAS number Mixture (no single CAS); Key components - Cholic acid (CAS 81-25-4), Glycocholic acid (CAS 475-31-0), Taurocholic acid (CAS 145-42-6)

Recommended use of the chemical and restrictions on use

Recommended use

Laboratory research standards for biomarker discovery, microbiome analysis, and LC-MS applications. For research use only; not for human or veterinary use.

Uses advised against

Not for therapeutic, diagnostic, food, or household use.

Details of the supplier of the safety data sheet

Supplier Address

Bileomix Inc.
400 Farmington Avenue, R2832
Farmington, CT, 06032
Phone: 1-860-300-8287
Email: lab@bileomix.com

Emergency telephone number

Emergency Phone Numbers

For Medical Emergencies, call: 1-800-446-1014
For Transportation Emergencies, call Chemtrec: 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Skin corrosion/irritation	Category 2 (H315: Causes skin irritation)
Acute Toxicity, Oral	Category 4 (H302: Harmful if swallowed)
Serious eye damage/eye irritation	Category 2A (H319: Causes serious eye irritation)
Specific Target Organ Toxicity (Single Exposure)	Category 3 (H335: May cause respiratory irritation) (based on analogous components)

GHS Label elements, including precautionary statements

Emergency Overview

Signal word	Danger
Hazard Statements Causes serious eye damage May cause respiratory irritation	
	

Precautionary Statements - Prevention

Avoid breathing dust.
Wash hands thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/eye protection/face protection.

Precautionary Statements - Response

Immediately call a poison center or doctor.
IF ON SKIN: Wash with plenty of water.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call a POISON CENTER/doctor if you feel unwell.
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Precautionary Statements - Disposal

Dispose of contents in accordance with all applicable federal, state, and local regulations.

Hazards not otherwise classified (HNOC)

Novel conjugates may have unknown biological effects. No PBT/vPvB components at $\geq 0.1\%$. No endocrine-disrupting properties.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture: Equimolar mixture of cholic acid amidates with amino acids (glycine, alanine, arginine, asparagine, aspartic acid, glutamine, glutamic acid, histidine, taurine, isoleucine, leucine, lysine (dimer), methionine, phenylalanine, proline, serine, threonine, tryptophan, tyrosine, valine, DOPA, tryptamine) plus unconjugated cholic acid.

Chemical Name	CAS-No	Weight %	Trade Secret
Cholic acid	81-25-4	Variable	*
Glycocholic acid	475-31-0	Variable	*
Taurocholic acid	145-42-6	Variable	*
Other novel amidates**	N/A	Balance (equimolar)	*

* The exact percentage (concentration) of composition has been withheld as a trade secret.

**Impurities/stabilizing additives: None known above reportable levels. Total product: 5 mg dry powder per vial.

4. FIRST AID MEASURES

First aid measures

General Advice	If symptoms persist, call a physician.
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Get medical attention
Inhalation	Remove to fresh air. Get medical attention. If not breathing, give artificial respiration.
Ingestion	Do NOT induce vomiting. Get medical attention.

Most important symptoms and effects, both acute and delayed

Most Important Symptoms and effects

Irritation to skin, eyes, and respiratory tract; possible nausea or gastrointestinal effects.

Indication of any immediate medical attention and special treatment needed

Notes to Physician

Treat symptomatically. No specific antidote known.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Water spray, dry chemical, foam, carbon dioxide. Unsuitable: Water jet (may spread material)

Unsuitable Extinguishing Media

No information available

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

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 A Use personal protective equipment as required. Avoid dust formation. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing.

Other Information Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental Precautions Avoid release to the environment.

Methods and material for containment and cleaning up

Methods for Cleaning Up Sweep or vacuum up, avoiding dust. Place in suitable container for disposal (see Section 13).

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid dust formation. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Incompatible Materials. Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

Appropriate engineering controls

Engineering Measures

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location

Individual protection measures, such as personal protective equipment

Eye/Face Protection Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and Body Protection Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice. Wash hands after direct contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical State	Powder Solid	Odor	Odorless
Appearance	Light cream	Odor Threshold	No information available
Color	White to off-white		

<u>Property</u>	<u>Values</u>	<u>Remarks/ Method</u>
pH	Neutral (when reconstituted)	None known
Melting/freezing point	200-230°C	None known
Boiling point / boiling range	No data available	None known
Flash Point	Not flammable	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limits in Air		
Upper flammability limit	No data available	None known
Lower flammability limit	No data available	None known
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Specific Gravity	No data available	None known
Water Solubility	No data available	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive Properties	Not explosive	
Oxidizing Properties	No data available	
 <u>Other Information</u>		
Softening Point	No data available	
VOC Content (%)	No data available	
Particle Size	No data available	
Particle Size Distribution	No data available	

10. STABILITY AND REACTIVITY

Reactivity

None known, based on information available

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

Avoid dust formation. Incompatible products. Excess heat.

Incompatible materials

Strong oxidizing agents

Hazardous Decomposition Products

Nitrogen oxides (NO_x), Carbon monoxide (CO), Carbon dioxide (CO₂), Sulfur oxides, Sodium oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure**Product Information**

Acute toxicity: No acute toxicity information is available for this product

Eye Contact Causes irritation.

Skin Contact Causes irritation.

Sensitization No information available.

Mutagenic Effects No information available.

Carcinogenicity Not listed (IARC, NTP, OSHA).

Reproductive Toxicity No information available.

STOT - single exposure Single exposure: May cause respiratory irritation..

STOT - repeated exposure No information available.

Chronic Toxicity Carcinogenic potential is unknown.

Target Organ Effects Respiratory system, eyes, skin, gastrointestinal tract (GI).

Aspiration Hazard No data. RTECS: Cholic acid - FZ9350000. Properties not fully investigated for novel conjugates.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Low ecotoxicity expected; no data available.

Persistence and Degradability

No information available.

Bioaccumulation

No information available.

Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS

Disposal methods

Dispose of as hazardous waste via licensed facility, in accordance with local, state, and federal regulations (e.g., RCRA). Do not discharge to sewers.

Contaminated Packaging

Do not reuse empty containers. Dispose of in accordance with all applicable federal, state, and local regulations.

14. TRANSPORT INFORMATION

DOT Not restricted.

TDG Not restricted

ICAO Not restricted

IATA Not restricted

IMDG/IMO Not restricted

15. REGULATORY INFORMATION

Chemical Inventories

TSCA Research exemption for small quantities; verify status.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

U.S. Federal Regulations

SARA 313

Not applicable

SARA 311/312 Hazard Categories

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

Not applicable

OSHA - Occupational Safety and Health Administration

Not applicable

CERCLA

Not applicable

U.S. Department of Homeland Security

This product does not contain any DHS chemicals

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Not applicable

International Regulations

Complies with GHS; check REACH for EU.

16. OTHER INFORMATION

NFPA **Health Hazard** 2 **Flammability** 1 **Instability** 0 **Physical and Chemical Hazards** -

Prepared By

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Farmington, CT 06032
1-860-300-8287

Revision Date

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General Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. This SDS is based on available data for analogous compounds, as no specific safety information exists for novel amidates. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered 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 materials or in any process, unless specified in the text.

End of Safety Data Sheet