

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name D (+) Galactose

Other means of identification

Product Code(s) A2401

Synonyms No information available

Product Use For Laboratory Research Use Only.

Supplier/Manufacturer

Biomatik Corporation
9-140 McGovern Dr.
Cambridge, Ontario N3H 4R7
Canada

Telephone Number 1-519-489-7195

E-mail Address info@biomatik.com

Emergency Telephone Number Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.122)

Label elements

Emergency Overview

Appearance White to almost white **Physical State** Crystalline Powder **Odor** No information available

Hazards not otherwise classified (HNOC)

Not regulated

Other Information

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS-No | EC No. | Weight % | Trade Secret |
|---------------|---------|-----------|----------|----------------|
| D-Galactose | 59-23-4 | 200-416-4 | 95-100 | Not applicable |

4. FIRST AID MEASURES

First Aid Measures

| | |
|---------------------|--|
| Eye Contact | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician. |
| Skin Contact | Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. |
| Inhalation | Move to fresh air. If not breathing, give artificial respiration. |
| Ingestion | Never give anything by mouth to an unconscious person. Rinse mouth. |

Most important symptoms and effects, both acute and delayed

Most Important Symptoms/Effects No information available.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES**Suitable Extinguishing Media**

Dry chemical, CO₂, water spray or alcohol-resistant foam.

Unsuitable Extinguishing Media No information available.

Specific Hazards Arising from the Chemical

No information available.

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 protection Avoid contact with skin, eyes and clothing. Use personal protective equipment. Ensure adequate ventilation. Avoid dust formation.

Environmental Precautions

Environmental Precautions See Section 12 for additional Ecological information.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE**Precautions for Safe Handling**

Handling Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Protect from moisture. Keep container tightly closed in a dry and well-ventilated place.

Incompatible Products 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.

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|---------------|-----------|----------|------------|
| D-Galactose | - | - | - |

Appropriate engineering controls

Engineering Measures Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Safety glasses with side-shields.

Skin and Body Protection Wear protective gloves/clothing.

Respiratory Protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

| | | | |
|-----------------------|--------------------------|-----------------------|--------------------------|
| Physical State | Crystalline Powder | Odor | No information available |
| Appearance | White to almost white | Odor Threshold | No information available |
| Color | No information available | | |

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|-------------------------------------|--------------------------|-------------------------|
| pH | No information available | |
| Melting point/freezing point | | |
| Boiling Point/Range | No information available | |
| Flash Point (High in °C) | No information available | |
| Evaporation Rate | No information available | |
| 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

Reactivity

No data available

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to Avoid

Protect from moisture.

Incompatible Materials

Strong oxidizing agents.

Hazardous Decomposition Products

Carbon oxides.

11. TOXICOLOGICAL INFORMATION

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

Inhalation There is no data available for this product.
Eye Contact There is no data available for this product.
Skin Contact There is no data available for this product.
Ingestion There is no data available for this product.

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---------------|-----------|-------------|-----------------|
| D-Galactose | - | - | - |

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.
Mutagenic Effects No information available.
Carcinogenicity No information available.

| Chemical Name | ACGIH | IARC | NTP | OSHA |
|---------------|-------|------|-----|------|
| D-Galactose | - | - | - | - |

Reproductive Toxicity No information available.
STOT - single exposure No information available.
STOT - repeated exposure No information available.
Aspiration hazard No information available.

Numerical measures of toxicity - Product Information

12. ECOLOGICAL INFORMATION

Ecotoxicity

100% of the mixture consists of component(s) of unknown hazards to the aquatic environment

| Chemical Name | Algae/aquatic plants | Toxicity to Fish | Crustacea |
|---------------|----------------------|------------------|-----------|
| D-Galactose | - | - | - |

Persistence and Degradability

No information available.

Bioaccumulation/Accumulation

No information available.

| Chemical Name | Partition coefficient |
|---------------|-----------------------|
| D-Galactose | - |

Other Adverse Effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Disposal Method Dispose of material in accordance with all federal, state, and local regulations.

Contaminated Packaging Dispose of in accordance with all federal, state and local regulations.

| Chemical Name | RCRA - Halogenated Organic Compounds | RCRA - P Series Wastes | RCRA - F Series Wastes | RCRA - K Series Wastes |
|---------------|--------------------------------------|------------------------|------------------------|------------------------|
| D-Galactose | - | - | - | - |

| Chemical Name | California Hazardous Waste Status |
|---------------|-----------------------------------|
| D-Galactose | - |

14. TRANSPORT INFORMATION

DOT Not regulated

IATA Not regulated

15. REGULATORY INFORMATION

International Inventories

| | |
|---------------|----------|
| TSCA | Complies |
| DSL/NDSL | Complies |
| EINECS/ELINCS | Complies |
| ENCS | Complies |
| IECSC | Complies |
| KECL | Complies |
| 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 Commercial Chemical Substances/EU 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

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

| Component | SARA 313 - Threshold Values % |
|-------------|-------------------------------|
| D-Galactose | - |

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 |

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 |
|---------------|-----------------------------|------------------------|---------------------------|----------------------------|
| D-Galactose | - | - | - | - |

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 | Extremely Hazardous Substances RQs | RQ |
|---------------|--------------------------|------------------------------------|----|
| D-Galactose | - | - | - |

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

| Chemical Name | California Prop. 65 |
|-----------------------|---------------------|
| D-Galactose - 59-23-4 | - |

U.S. State Right-to-Know Regulations

| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|---------------|------------|---------------|--------------|
| D-Galactose | - | - | - |

U.S. EPA Label Information

EPA Pesticide Registration Number Not regulated

16. OTHER INFORMATION

Disclaimer

The information provided on this MSDS 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