

2 WEST PARK ROAD
HAVERTOWN, PA 19083

1-800-247-6665
610-853-1130

SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifier

Product name: CHRONO-LUME®
Product Number: 395
Synonyms Luciferin-Luciferase

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: For quantitation of ATP Release

1.3 Details of the supplier of the safety data sheet

Company : Chrono-log Corp
2 West Park Road
Havertown, PA 19083
USA
Telephone : 610-853-1130
Email: chronolog@chronolog.com

1.4 Emergency telephone number

Emergency Phone # : 610-853-1130

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Main hazards: This chemical is not considered hazardous by 2012 OSHA Hazard Communication Standard (29 CFR 1910. 1200)

2.2 Label elements

Risk phrases: This chemical is not considered hazardous by 2012 OSHA Hazard Communication Standard (29 CFR 1910. 1200). This product contains no substance which at their given concentration, are considered to be hazardous to health.

Appearance: Powder
Physical State: Solid
Odor: No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances Not Applicable

Synonyms: Luciferin-Luciferase

3.2 Mixtures This product contains no substance which at their given concentration, are considered to be hazardous to health.

4. FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation: Move the exposed person to fresh air.

Eye contact: May cause irritation to eyes. Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact: May cause irritation to skin. Wash with soap and water.

Ingestion: May cause irritation. Rinse mouth.

General information: If you feel unwell, seek medical advice (show the label where possible).

4.2 Most important symptoms and effects, both acute and delayed Symptoms No information available

4.3 Indication of any immediate medical attention and special treatment needed.

Note to physician Treat Symptomatically

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

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

CAUTION: use of water spray when fighting fire may be inefficient

Unsuitable extinguishing media

Do not scatter spilled material with high pressure water streams

5.2 Special hazards arising from the substance or mixture

No information available

Explosion Data

Sensitivity to mechanical impact None

Sensitivity to static discharge None

5.3 Advice for firefighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Avoid breathing dust/fume/gas/mist/vapours/spray. Ensure adequate ventilation.

6.2 Environmental precautions

Non-hazardous.

6.3 Methods and material for containment and cleaning up

Collect spilled liquid with absorbent material and place in a container for suitable disposal.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Handle in accordance with good hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities

Storage Conditions Store unconstituted reagent frozen below 0 until expiration date.

Keep container tightly closed in a dry and well-ventilated place.

Packing materials Glass

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Potassium Arsenate Monobasic 7784-41-0	TWA: 1.01 mg/m ³ As	TWA: 10µg/m ³ As	IDLH: 5 MG/M ³ As Ceiling 0.002 mg/m ³ As 15min

Biological Occupational Exposure limits

Chemical Name	ACGIH
Potassium Arsenate Monobasic 7784-41-0	35 µg As/L – Urine (inorganic arsenic plus methylated Metabolites) – end of work week

8.2 Appropriate engineering controls

8.2.1 Engineering controls

Showers
Eyewash Stations
Ventilation systems

8.2.2 Personal protective equipment

Eye / face protection:

In case of splashing, wear: Safety glasses with side shields.

Skin protection -

Normal Precautions for handling laboratory reagents should be followed.

Hand protection:

Normal Precautions for handling laboratory reagents should be followed.

Respiratory protection

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical State	Solid
Appearance:	Powder
Color:	White to Off white
Odor	No information available
Odor threshold	No information available

Property	Values	Remarks *Method
pH	No data available	None known
Melting Point/freezing point	No data available	None known
Initial boiling point and boiling range	No data available	None known
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Relative vapor density	No data available	None known
Relative density	No data available	None known
Water solubility	No data available	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature		None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

Other information

Explosive properties	No information available
Oxidizing properties	No information available
Softening point	No information available
Molecular weight	No information available
VOC content	No information available
Liquid density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

10.1 Reactivity	No information available
10.2 Chemical stability	Stable under normal conditions.
10.3 Possibility of hazardous reactions	None under normal processing
10.4 Conditions to avoid	None known based on information supplied
10.5 Incompatible materials	None known based on information supplied
10.6 Hazardous decomposition products	None known based on information supplied

11. TOXICOLOGICAL INFORMATION

11.1 Information on hazard classes

Information on likely routes of exposure

Inhalation	Specific test data for the substance or mixture is not available
Eye Contact	Specific test data for the substance or mixture is not available
Skin contact	Specific test data for the substance or mixture is not available
Ingestion	Specific test data for the substance or mixture is not available

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available

Acute toxicity

Numerical measures of toxicity
Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Potassium Arsenate Monobasic 7784-41-0	= 14 MG/KG (Rat)	-	-

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

Skin corrosion/irritation	No information available
Serious eye damage/eye irritation	No information available
Respiratory or skin sensitization	No information available
Germ cell mutagenicity	No information available
Carcinogenicity	No information available

The Table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Potassium Arsenate Monobasic 7784-41-0	A1	Group 1	Known	X

Legend

ACGIH (American Conference of Governmental Industrial Hygienist)

A1- known human carcinogen

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

NTP (National Toxicology Program)

Known - Known Carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
 X – Present

Reproductive toxicity No information available
STOT – single exposure No information available
STOT – repeat exposure No information available
Aspiration hazard No information available
Other adverse effects No information available
Interactive effects No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity The environmental impact of this product has not been fully investigated.
Persistence and degradability No information available
Bioaccumulation There is no data for this product
Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste from residues/unused products Disposal should be made in accordance with local and national regulations.
Contaminated packaging Do not reuse empty containers.

14. TRANSPORT INFORMATION

DOT (US)
 Not regulated

15. REGULATORY INFORMATION

International Inventories
TSCA Contact supplier for inventory compliance status

Chemical Name	CAS No.	US TSCA Inventory Listing	US TSCA Inactive/active designation
D-Luciferin	2591-17-5	-	Unknown *
Glycine	56-40-6	Present	Active
Human Albumin	70024-90-7	Present	Active
Magnesium Sulfate Anhydrous	7487-88-9	Present	Active
EDTA Tetrasodium Salt	10378-23-1	Present	Active
Sodium Chloride	7647-14-5	Present	Active
Sodium Bicarbonate	144-55-8	Present	Unknown *
Sodium Phosphate Monobasic	7558-80-7	Present	Active
Potassium Arsenate Monobasic	7784-41-0	Present	Active
Recombinant Luciferase	61970-00-1	-	Unknown*

DSL/NDSL Contact supplier for inventory compliance status
EINECS/ELINCS Contact supplier for inventory compliance status
ENCS Contact supplier for inventory compliance status
IECSC Contact supplier for inventory compliance status
KECL Contact supplier for inventory compliance status
PICCS Contact supplier for inventory compliance status

AIIC
NZIoC

Contact supplier for inventory compliance status
Contact supplier for inventory compliance status

Legend:

TSCA – United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL – Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS – European Inventory of Existing Chemical Substances/European List of 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
AIIC – Australian Inventory of Industrial Chemicals
NZIoC – New Zealand Inventory of Chemicals

US 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.

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of the SDS for appropriate classifications.

CWA Clean Water Act

This product contains the following substances which are regulated 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
Potassium Arsenate Monobasic 7784-41-0	1 lb	X	-	X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40CFR 302).

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	Reportable Quantity (RQ)
Potassium Arsenate Monobasic 7784-41-0	1 lb	-	RQ 1 lb final RQ RQ 0.454 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals:

Chemical Name	California Propositions 65
Potassium Arsenate Monobasic 7784-41-0	Carcinogen Development

US State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Potassium Arsenate Monobasic 7784-41-0	X	X	X

US EPA Information

EPA Pesticide Registration Number Not Applicable

16. OTHER INFORMATION

NFPA Health Hazards 0 Flammability 0 Instability 0 Special hazards –

HMIS Health Hazards 0 Flammability 0 Physical hazards 0 Personal protection X

Key or Legend to abbreviations and acronyms used to compile the Safety Data Sheet

Legend Section 8: Exposure controls/personal protection

TWA TWA (Time-weighted average) STEL STEL (Short Term Exposure Limit)

Ceiling Maximum limit value * Skin designation

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
US Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGl(s))
US Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
US Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-Operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-Operation and Development High Production Volume Chemicals Program
Organization for Economic Co-Operation and Development Screening Information Data Set
World Health Organization

Disclaimer

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any

guarantee of the properties of the product. Chrono-log Corp. shall not be held liable for any damage resulting from handling or from contact with the above product.