SAFETY DATA SHEET

Revision date 07/03/2023 **Revision Number** 3

1. Identification

Product identifier

Product Name Strontium (pieces)

Other means of identification

Safety data sheet number 04758

UN number or ID number UN3132

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use Physical vapor deposition of thin films

Restrictions on use No information available

Details of the supplier of the safety data sheet

Supplier Address
Kurt J Lesker Company

Manufacturer Address
Kurt J Lesker Company
1925 Route 51
Jefferson Hills, PA 15025
+1 412-387-9200

Kurt J Lesker Company LTD
United Kingdom
Austin House
Sidney Little Road
Churchfields Industrial Estate
St Leonards on Sea, East Sussex, TN38 9PU, United Kingdom
Customer Service: +44 (0) 1424 458100

E-mail msds@lesker.com

Emergency telephone number

Emergency Telephone North America [USA, Canada, Mexico]: 1-866-519-4752
Mainland China: (+86) 4001 2001 74
Europe: { int'l call prefix} -1-760-476-3961
Asia Pacific: { int'l call prefix} -1-760-476-3960
Middle East & Africa: { int'l call prefix} -1-760-476-3959
South Korea: +080-880-0455
Philippines: (+63) 2 83953471

2. Hazard(s) identification

Classification

Substances and mixtures which, in contact with water, emit flammable gases	Category 1
Skin corrosion/irritation	Category 2

Hazards not otherwise classified (HNOC)

Not applicable

Label elements



Danger

Hazard statements
In contact with water releases flammable gases which may ignite spontaneously
Causes skin irritation

Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling
Do not allow contact with water
Handle under inert gas. Protect from moisture
Wear protective gloves/eye protection/face protection

Precautionary Statements - Response
Specific treatment (see .? on this label)
IF ON SKIN: Wash with plenty of water and soap
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash it before reuse
Brush off loose particles from skin and immerse in cool water/wrap in wet bandages
In case of fire: Use CO2, dry chemical, or foam to extinguish

Precautionary Statements - Storage
Store in a dry place. Store in a closed container

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Other information
No information available.

3. Composition/information on ingredients

Substance

Formula Sr

Chemical name	CAS No	Weight-%	Trade secret
Strontium (pieces)	7440-24-6	100	*

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

4. First-aid measures

Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance.

Inhalation	Remove to fresh air. Get medical attention immediately if symptoms occur.
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 for at least 15 minutes. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms	No information available.
Effects of Exposure	No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.
Specific hazards arising from the chemical	No information available.
Hazardous combustion products	Hazardous metal fumes and oxides.
Explosion data	
Sensitivity to mechanical impact	None.
Sensitivity to static discharge	None.
Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required.
Other information	Refer to protective measures listed in Sections 7 and 8.

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

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

8. Exposure controls/personal protection

Control parameters

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection No special protective equipment required.

Hand protection Wear suitable gloves. Impervious gloves.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing.

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 Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Solid
Appearance	solid
Color	silver
Odor	No characteristic odour
Odor threshold	No information available

Property	**Values**	**Remarks • Method**
pH	No data available	None known

pH (as aqueous solution)		None known
Melting point / freezing point	777 °C / 1430.6 °F	777°C/1430.6°F
Initial boiling point and boiling range	1382 °C / 2519.6 °F	1382°C/2519.6°F
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	13 hPa @ 898°C	None known
Relative vapor density	No data available	None known
Relative density	2.64 @ 20°C	None known Insoluble in water
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	87.62
VOC content	No information available
Liquid Density	No information available
Bulk density	No information available

10. Stability and reactivity

Reactivity No information available.

Chemical stability Stable under normal conditions.

Possibility of hazardous reactions Reaction with water or moist air will release toxic, corrosive or flammable gases.

Conditions to avoid None known based on information supplied.

Incompatible materials Water. Strong acids. Strong bases. Strong oxidizing agents.

Hazardous decomposition products None known based on information supplied.

11. Toxicological information

Information on likely routes of exposure

Product Information

Inhalation Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.

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. Causes skin irritation. (based on components).

Ingestion Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Redness. May cause redness and tearing of the eyes.

Acute toxicity .

Numerical measures of toxicity
No information available

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

Skin corrosion/irritation Classification based on data available for ingredients. Causes skin irritation.

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.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated 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

Disposal methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

14. Transport information

DOT

UN number or ID number	UN3132
Proper shipping name	Water-reactive solid, flammable, n.o.s.
Transport hazard class(es)	4.3
Subsidiary hazard class	4.1
Packing group	II
Special Provisions	IB4, T3, TP33, W31, W40
DOT Marine Pollutant	NP
Description	UN3132, Water-reactive solid, flammable, n.o.s.(Strontium (massive)), 4.3 (4.1), II
Emergency Response Guide Number	138

TDG

UN number or ID number	UN3132
UN proper shipping name	Water-reactive solid, flammable, n.o.s.
Transport hazard class(es)	4.3
Subsidiary hazard class	4.1
Packing group	II
Special Provisions	16
Description	UN3132, Water-reactive solid, flammable, n.o.s.(Strontium (massive), 4.3 (4.1), II

MEX

UN number or ID number	UN3132
UN proper shipping name	Water-reactive solid, flammable, n.o.s.
Transport hazard class(es)	4.3
Subsidiary hazard class	4.1
Packing group	II
Description	UN3132, Water-reactive solid, flammable, n.o.s.(Strontium (massive), 4.3 (4.1), II
Special Provisions	274

ICAO (air)

UN number or ID number	UN3132
UN proper shipping name	Water-reactive solid, flammable, n.o.s.
Transport hazard class(es)	4.3
Subsidiary hazard class	4.1
Packing group	II
Description	UN3132, Water-reactive solid, flammable, n.o.s.(Strontium (massive), 4.3 (4.1), II
Special Provisions	A3

IATA

UN number or ID number	UN3132
UN proper shipping name	Water-reactive solid, flammable, n.o.s.

Transport hazard class(es)	4.3
Subsidiary hazard class	4.1
Packing group	II
Description	UN3132, Water-reactive solid, flammable, n.o.s.(Strontium (massive), 4.3 (4.1), II
Special Provisions	A3, A803
ERG Code	4FW

IMDG

UN number or ID number	UN3132
UN proper shipping name	Water-reactive solid, flammable, n.o.s.
Transport hazard class(es)	4.3
Subsidiary hazard class	4.1
Packing group	II
EmS-No	F-G, S-N
Special Provisions	274
Marine pollutant	NP
Description	UN3132, Water-reactive solid, flammable, n.o.s.(Strontium (massive), 4.3 (4.1), II

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
Strontium (pieces)	7440-24-6	Present	Active

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	Contact supplier for inventory compliance status.
NZIoC	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 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
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 this SDS for appropriate

classifications.

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).

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.

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Strontium (pieces) 7440-24-6	X	-	-

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other information

NFPA	**Health hazards** 2	**Flammability** 0	**Instability** 0	**Special hazards** W
HMIS	**Health hazards** 2	**Flammability** 0	**Physical hazards** 0	**Personal protection** X

Key or legend to abbreviations and acronyms used in 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)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. 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

Revision date 07/03/2023
Revision Note No information available.

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. 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