SAFETY DATA SHEET
Magnesium Silicide (powder and pieces)

1. Identification

Product identifier

Product name Magnesium Silicide (powder and pieces)

Internal identification Replaces M-2010-175

CAS number 22831-39-6

Recommended use of the chemical and restrictions on use

Application Physical vapor deposition of thin films

Uses advised against No specific uses advised against are identified.

Details of the supplier of the safety data sheet

Supplier Kurt J Lesker Company

Manufacturer 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
msds@lesker.com

Emergency telephone number

Emergency telephone Emergency Numbers
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 of the substance or mixture

Physical hazards Water-react. 2 - H261

Health hazards Not Classified

Environmental hazards Not Classified

Label elements

Magnesium Silicide (powder and pieces)

Hazard symbols



Signal word	Danger
Hazard statements	H261 In contact with water releases flammable gases.
Precautionary statements	P223 Do not allow contact with water. P231+P232 Handle under inert gas. Protect from moisture. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P335+P334 Brush off loose particles from skin. Immerse in cool water/ wrap in wet bandages. P370+P378 In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish. P402+P404 Store in a dry place. Store in a closed container. P501 Dispose of contents/ container in accordance with national regulations.

3. Composition/information on ingredients

Mixtures

Magnesium Silicide	**100%**
CAS number: 22831-39-6	

4. First-aid measures

Description of first aid measures

General information	If in doubt, get medical attention promptly. Show this Safety Data Sheet to the medical personnel.
Inhalation	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Loosen tight clothing such as collar, tie or belt. Get medical attention if symptoms are severe or persist.
Ingestion	Rinse mouth thoroughly with water. Get medical advice/attention if you feel unwell. Do not induce vomiting unless under the direction of medical personnel.
Skin Contact	Rinse with water.
Eye contact	Rinse with water. Get medical attention if any discomfort continues.
Protection of first aiders	First aid personnel should wear appropriate protective equipment during any rescue.

Most important symptoms and effects, both acute and delayed

General information	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	No specific symptoms known.
Ingestion	No specific symptoms known.
Skin contact	Prolonged contact may cause dryness of the skin.
Eye contact	No specific symptoms known. May be slightly irritating to eyes.

Indication of immediate medical attention and special treatment needed

Notes for the doctor	Treat symptomatically.
Specific treatments	No special treatment required.

5. Fire-fighting measures

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Extinguishing media

Suitable extinguishing media Extinguish with alcohol-resistant foam, carbon dioxide or dry powder. Use fire-extinguishing media suitable for the surrounding fire.

Unsuitable extinguishing media Water.

Special hazards arising from the substance or mixture

Flammability Class 13.1 Water Reactive 2.

Specific hazards In contact with water releases flammable gases which may ignite spontaneously.

Hazardous combustion products Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors.

Advice for firefighters

Protective actions during firefighting Avoid breathing fire gases or vapors. Evacuate area. Do not allow water to contact any leaked material.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Standard Firefighter's clothing including helmets, protective boots and gloves will provide a basic level of protection for chemical incidents.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet. No action shall be taken without appropriate training or involving any personal risk.

Environmental precautions

Environmental precautions Avoid discharge into drains or watercourses or onto the ground.

Methods and material for containment and cleaning up

Methods for cleaning up Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Collect spillage with a shovel and broom, or similar and reuse, if possible. Collect and place in suitable waste disposal containers and seal securely. Wash thoroughly after dealing with a spillage. For waste disposal, see Section 13.

Reference to other sections For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

7. Handling and storage

Precautions for safe handling

Usage precautions Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Keep container tightly sealed when not in use.

Advice on general occupational hygiene Wash promptly if skin becomes contaminated. Take off contaminated clothing and wash before reuse. Wash contaminated clothing before reuse.

Dust Explosion Class

Conditions for safe storage, including any incompatibilities

Storage precautions Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage.

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Storage class	Unspecified storage.

Specific end uses(s)

Specific end use(s)	The identified uses for this product are detailed in Section 1.

8. Exposure controls/Personal protection

Exposure controls

Protective equipment



Appropriate engineering controls	Provide adequate ventilation. Observe any occupational exposure limits for the product or ingredients.
Eye/face protection	Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses.
Hand protection	No specific hand protection recommended.
Other skin and body protection	Wear appropriate clothing to prevent repeated or prolonged skin contact.
Hygiene measures	Wash hands thoroughly after handling. Wash at the end of each work shift and before eating, smoking and using the toilet. Do not eat, drink or smoke when using this product.
Respiratory protection	Ensure all respiratory protective equipment is suitable for its intended use and is NIOSH approved. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with OSHA 1910.134. Full face mask respirators with replaceable filter cartridges should comply with OSHA 1910.134. Half mask and quarter mask respirators with replaceable filter cartridges should comply with OSHA 1910.134.
Environmental exposure controls	Keep container tightly sealed when not in use.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Solid.
Color	Blue.
Odor	No characteristic odor.
Odor threshold	No information available.
pH	Not applicable.
Melting point	1102°C/2015.6°F
Initial boiling point and range	No information available.
Flash point	Not applicable.
Evaporation rate	Not applicable.
Evaporation factor	Not applicable.
Flammability (solid, gas)	No information available.
Upper/lower flammability or explosive limits	Data lacking.

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Vapor pressure	Not available.
Vapor density	Not available.
Relative density	2.00
Bulk density	Not available.
Solubility(ies)	Insoluble in water.
Partition coefficient	No information available.
Auto-ignition temperature	Not applicable.
Decomposition Temperature	Not available.
Viscosity	Not applicable.
Molecular weight	76.71

10. Stability and reactivity

Reactivity	Water-reactive materials.
Stability	The substance is hygroscopic and will absorb water by contact with the moisture in the air.
Possibility of hazardous reactions	In contact with water releases flammable gases.
Conditions to avoid	No specific requirements are anticipated under normal conditions of use.
Materials to avoid	Acids. Oxidizing agents.
Hazardous decomposition products	Harmful gases or vapors. Metal Oxides Silicon.

11. Toxicological information

Information on toxicological effects

Toxicological effects	Not regarded as a health hazard under current legislation.

Acute toxicity - oral

Notes (oral LD_{50})	Based on available data the classification criteria are not met.

Acute toxicity - dermal

Notes (dermal LD_{50})	Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC_{50})	Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data	Based on available data the classification criteria are not met.

Serious eye damage/irritation

Serious eye damage/irritation	Based on available data the classification criteria are not met.

Respiratory sensitization

Respiratory sensitization	Based on available data the classification criteria are not met.

Skin sensitization

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Skin sensitization	Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro	Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity	Based on available data the classification criteria are not met.
IARC carcinogenicity	None of the ingredients are listed or exempt.

Reproductive toxicity

Reproductive toxicity - fertility	Based on available data the classification criteria are not met.
Reproductive toxicity - development	Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure	Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure	Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard

Aspiration hazard	Not relevant. Solid.

General information	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	No specific symptoms known.
Ingestion	No specific symptoms known.
Skin Contact	Prolonged contact may cause dryness of the skin.
Eye contact	No specific symptoms known.
Route of exposure	Ingestion Inhalation Skin and/or eye contact
Target Organs	No specific target organs known.

12. Ecological information

Ecotoxicity	Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.
Toxicity	Based on available data the classification criteria are not met.

Persistence and degradability

Persistence and degradability	The degradability of the product is not known.

Bioaccumulative potential

Bio-Accumulative Potential	No data available on bioaccumulation.
Partition coefficient	No information available.

Mobility in soil

Mobility	No data available.

Other adverse effects

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Other adverse effects None known.

13. Disposal considerations

Waste treatment methods

General information The generation of waste should be minimized or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

Disposal methods Dispose of waste via a licensed waste disposal contractor.

14. Transport information

General For limited quantity packaging/limited load information, consult the relevant modal documentation using the data shown in this section.

Air transport notes Refer to the Dangerous Goods List for information on any Special Provisions .

DOT transport notes Refer to the Dangerous Goods List for information on any Special Provisions A19,A20, IB7,IP2,T3,TP33.

UN Number

UN No. (TDG) UN2624

UN No. (IMDG) UN2624

UN No. (ICAO) UN2624

UN No. (DOT) UN2624

UN proper shipping name

Proper shipping name (TDG) MAGNESIUM SILICIDE

Proper shipping name (IMDG) MAGNESIUM SILICIDE

Proper shipping name (ICAO) MAGNESIUM SILICIDE

Proper shipping name (DOT) MAGNESIUM SILICIDE

Transport hazard class(es)

DOT hazard class 4.3

DOT hazard label 4.3

TDG class 4.3

IMDG Class 4.3

ICAO class/division 4.3

DOT transport labels



Packing group

TDG Packing Group II

IMDG packing group II

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ICAO packing group II

DOT packing group II

Environmental hazards

Environmentally Hazardous Substance
No.

Special precautions for user

Ensure that persons transporting the product know what to do in the event of an accident or spillage.

EmS F-G, S-O

15. Regulatory information

US Federal Regulations

SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities
Not listed.

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)
Not listed.

SARA 313 Emission Reporting
Not listed.

SARA (311/312) Hazard Categories
In contact with water emits flammable gas

OSHA Highly Hazardous Chemicals
Present.

US State Regulations

Massachusetts "Right To Know" List
Not listed.

Rhode Island "Right To Know" List
Present.

Label Prop 65 data

Minnesota "Right To Know" List
Not listed.

Pennsylvania "Right To Know" List
Not listed.

New Jersey "Right To Know" List
Not listed.

Inventories

EU - EINECS/ELINCS
All the ingredients are listed or exempt.

Canada - DSL/NDSL
All the ingredients are listed or exempt.

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US - TSCA
All the ingredients are listed or exempt.

US - TSCA 12(b) Export Notification
None of the ingredients are listed or exempt.

Australia - AICS
Not listed.

Japan - ENCS
All the ingredients are listed or exempt.

Korea - KECI
All the ingredients are listed or exempt.

China - IECSC
All the ingredients are listed or exempt.

Philippines - PICCS
Not listed.

New Zealand - NZIOC
All the ingredients are listed or exempt.

Taiwan - TCSI
All the ingredients are listed or exempt.

16. Other information

Revision date	1/26/2023
Revision	2
Supersedes date	9/8/2022
SDS No.	6078
Hazard statements in full	H261 In contact with water releases flammable gases.

End of SDS