



SAFETY DATA SHEET

MATERION

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Name of the substance Lithium Nitride (Li₃N)
Identification number 247-475-2 (EC number)
Synonyms Lithium nitride (Li₃N) * Trilithium nitride
Document number 1MT
Materion Code 1MT
Issue date 09-June-2017
Version number 02
Revision date 11-January-2018
Supersedes date 09-June-2017

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

Identified uses Not available.
Uses advised against None known.

1.3. Details of the supplier of the safety data sheet

Supplier

Company name Materion Advanced Chemicals Inc.
Address 407 N. 13th Street
1316 W. St. Paul Avenue
Milwaukee, WI 53233
United States
Division Milwaukee
Telephone 414.212.0257
e-mail advancedmaterials@materion.com
Contact person Noreen Atkinson

1.4. Emergency telephone number

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The substance has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Regulation (EC) No 1272/2008 as amended

Physical hazards

Substances and mixtures which, in contact with water, emit flammable gases Category 1

H260 - In contact with water releases flammable gases which may ignite spontaneously.

Hazard summary

DANGER

In contact with water releases flammable gases which may ignite spontaneously. Reacts violently with water.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains: Lithium nitride

Hazard pictograms



Signal word Danger

Hazard statements

H260 In contact with water releases flammable gases which may ignite spontaneously.

Precautionary statements

Prevention

P223	Do not allow contact with water.
P223	Keep away from any possible contact with water, because of violent reaction and possible flash fire.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P231 + P232	Handle under inert gas. Protect from moisture.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash thoroughly after handling.

Response

P302 + P352	If skin irritation occurs, seek medical advice/attention. IF ON SKIN: Wash with plenty of soap and water.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P363	Wash contaminated clothing before reuse.
P304 + P340	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

Storage

P402 + P404	Store away from incompatible materials. Store in a dry place. Store in a closed container.
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Disposal

P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
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Supplemental label information

EUH014 - Reacts violently with water.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

3.1. Substances

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Lithium nitride	100	26134-62-3 247-475-2	-	-	
Classification:	Water-React. 1;H260				

List of abbreviations and symbols that may be used above

CLP: Regulation No. 1272/2008.

DSD: Directive 67/548/EEC.

M: M-factor

vPvB: very persistent and very bioaccumulative substance.

PBT: persistent, bioaccumulative and toxic substance.

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret. #: This substance has been assigned Community workplace exposure limit(s).

Composition comments

The full text for all R- and H-phrases is displayed in section 16.

SECTION 4: First aid measures

General information

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

4.1. Description of first aid measures

Inhalation

Call a physician if symptoms develop or persist.

Skin contact

Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages. Get medical attention if irritation develops and persists.

Eye contact

Get medical attention if irritation develops and persists.

Ingestion

If ingestion of a large amount does occur, call a poison control centre immediately.

4.2. Most important symptoms and effects, both acute and delayed

Direct contact with eyes may cause temporary irritation.

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

Provide general supportive measures and treat symptomatically.

SECTION 5: Firefighting measures

General fire hazards

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

5.1. Extinguishing media

Suitable extinguishing media Dry powder.

Unsuitable extinguishing media Water. Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

Water reactive material. In contact with water releases flammable gases which may ignite spontaneously.

5.3. Advice for firefighters

Special protective equipment for firefighters Wear suitable protective equipment.

Special firefighting procedures Firefighters should wear full protective clothing including self contained breathing apparatus.

Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Isolate spill or leak area immediately for at least 100 to 150 meters (330 to 490 feet) in all directions. Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

For emergency responders Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

6.2. Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

Stop the flow of material, if this is without risk. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimise spreading or contact with rain. Do not get water on spilled substance or inside containers. Prevent entry into waterways, sewer, basements or confined areas.

6.4. Reference to other sections

For personal protection, see section 8. For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Keep away from any possible contact with water, because of violent reaction and possible flash fire. Handle under inert gas. All equipment used when handling the product must be grounded. Provide adequate ventilation. Avoid prolonged exposure. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities

Keep away from heat and sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a dry place. Never allow product to get in contact with water during storage. Store in a building without sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

7.3. Specific end use(s)

Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Sweden. OELs. Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2015:7)

Material	Type	Value	Form
Lithium nitride (CAS 26134-62-3)	Ceiling	0,02 mg/m3	Inhalable dust.

Biological limit values

No biological exposure limits noted for the ingredient(s).

Recommended monitoring procedures

Follow standard monitoring procedures.

Derived no effect levels (DNELs)

Not available.

Predicted no effect concentrations (PNECs)

Not available.

8.2. Exposure controls

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide adequate general and local exhaust ventilation.

Individual protection measures, such as personal protective equipment

General information

Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin protection

- Hand protection

Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

- Other

Wear suitable protective clothing. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Respiratory protection

Wear positive pressure self-contained breathing apparatus (SCBA).

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

Hygiene measures

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Environmental exposure controls

Environmental manager must be informed of all major releases.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state

Solid.

Form

Solid.

Colour

Red brown.

Odour

Not available.

Odour threshold

Not available.

pH

Not available.

Melting point/freezing point

840 - 850 °C (1544 - 1562 °F)

Initial boiling point and boiling range

Not available.

Flash point

Not available.

Evaporation rate

Not available.

Flammability (solid, gas)

Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)

Not available.

Flammability limit - upper (%)

Not available.

Vapour pressure

< 0,0000001 kPa at 25 °C

Vapour density

Not available.

Relative density

Not available.

Solubility(ies)

Solubility (water)

Not available.

Partition coefficient (n-octanol/water)

Not available.

Auto-ignition temperature

Not available.

Decomposition temperature

Not available.

Viscosity

Not available.

Explosive properties

Not explosive.

Oxidising properties

Not oxidising.

9.2. Other information

Molecular formula

Li3N

Specific gravity 1,3 gm/cc

SECTION 10: Stability and reactivity

- 10.1. Reactivity** In contact with water releases flammable gases. None known.
- 10.2. Chemical stability** Material reacts with water. Instability caused by excessive moisture.
- 10.3. Possibility of hazardous reactions** No dangerous reaction known under conditions of normal use.
- 10.4. Conditions to avoid** Exposure to moisture. Contact with water liberates flammable gas. Exposure to water vapour. Contact with incompatible materials.
- 10.5. Incompatible materials** Reacts violently with water. None known.
- 10.6. Hazardous decomposition products** Ammonia. Nitrogen oxides (NOx). May include oxides of Lithium.

SECTION 11: Toxicological information

General information Occupational exposure to the substance or mixture may cause adverse effects.

Information on likely routes of exposure

- Inhalation** Prolonged inhalation may be harmful.
- Skin contact** Due to lack of data the classification is not possible.
- Eye contact** Due to lack of data the classification is not possible.
- Ingestion** Due to lack of data the classification is not possible.

Symptoms Exposure may cause temporary irritation, redness, or discomfort.

11.1. Information on toxicological effects

- Acute toxicity** No data available.
- Skin corrosion/irritation** Due to partial or complete lack of data the classification is not possible.
- Serious eye damage/eye irritation** Due to partial or complete lack of data the classification is not possible.
- Respiratory sensitisation** Due to partial or complete lack of data the classification is not possible.
- Skin sensitisation** Due to partial or complete lack of data the classification is not possible.
- Germ cell mutagenicity** Due to partial or complete lack of data the classification is not possible.
- Carcinogenicity** This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
- Hungary. 26/2000 EüM Ordinance on protection against and preventing risk relating to exposure to carcinogens at work (as amended)**
Not listed.
- Reproductive toxicity** Due to partial or complete lack of data the classification is not possible.
- Specific target organ toxicity - single exposure** Due to partial or complete lack of data the classification is not possible.
- Specific target organ toxicity - repeated exposure** Due to partial or complete lack of data the classification is not possible.
- Aspiration hazard** Due to partial or complete lack of data the classification is not possible.
- Mixture versus substance information** No information available.
- Other information** Not available.

SECTION 12: Ecological information

- 12.1. Toxicity** The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
- 12.2. Persistence and degradability** No data is available on the degradability of this product.
- 12.3. Bioaccumulative potential** No data available.
- Partition coefficient n-octanol/water (log Kow)** Not available.
- Bioconcentration factor (BCF)** Not available.
- 12.4. Mobility in soil** No data available.
- 12.5. Results of PBT and vPvB assessment** Not available.

12.6. Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). Avoid discharge into water courses or onto the ground.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.
EU waste code	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company. The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Disposal methods/information	Consult authorities before disposal. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Special precautions	Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

14.1. UN number	UN2806
14.2. UN proper shipping name	LITHIUM NITRIDE
14.3. Transport hazard class(es)	
Class	4.3
Subsidiary risk	-
Label(s)	4.3
Hazard No. (ADR)	Not available.
Tunnel restriction code	E
14.4. Packing group	I
14.5. Environmental hazards	No.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

RID

14.1. UN number	UN2806
14.2. UN proper shipping name	LITHIUM NITRIDE
14.3. Transport hazard class(es)	
Class	4.3
Subsidiary risk	-
Label(s)	4.3
14.4. Packing group	I
14.5. Environmental hazards	No.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

ADN

14.1. UN number	UN2806
14.2. UN proper shipping name	Lithium Nitride
14.3. Transport hazard class(es)	
Class	4.3
Subsidiary risk	-
Label(s)	4.3
14.4. Packing group	I
14.5. Environmental hazards	No.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IATA

14.1. UN number	UN2806
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14.2. UN proper shipping name	Lithium nitride
14.3. Transport hazard class(es)	
Class	4.3
Subsidiary risk	-
14.4. Packing group	I
14.5. Environmental hazards	No.
ERG Code	4W
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Forbidden
Cargo aircraft only	Allowed with restrictions.

IMDG

14.1. UN number	UN2806
14.2. UN proper shipping name	LITHIUM NITRIDE
14.3. Transport hazard class(es)	
Class	4.3
Subsidiary risk	-
14.4. Packing group	I
14.5. Environmental hazards	
Marine pollutant	No.
EmS	F-A, S-O
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

ADN; ADR; IATA; IMDG; RID



SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Not listed.

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.

Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

Not listed.

Other regulations

The product is classified and labelled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006.

National regulations

Follow national regulation for work with chemical agents.

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations

Not available.

Information on evaluation method leading to the classification of mixture

Not applicable.

Disclaimer

Additional information is given in the Material Safety Data Sheet. Materion Advanced Chemicals Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use.

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