



SAFETY DATA SHEET

MATERION

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

1.1. Product identifier

Name of the substance	Niobium Ethoxide
Identification number	221-795-2 (EC number)
Synonyms	None.
Document number	2II
Materion Code	2II
Issue date	05-June-2018
Version number	01

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

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

Hazard summary FLAMMABLE. Causes skin burns. Causes eye burns.

2.2. Label elements

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

Contains: Niobium Ethoxide

Hazard pictograms



Signal word Danger

Hazard statements

H226	Flammable liquid and vapour.
H314	Causes severe skin burns and eye damage.

Precautionary statements

Prevention

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P233	Keep container tightly closed.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/ equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharges.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P264	Wash thoroughly after handling.

Response

P301 + P330 + P331
P303 + P361 + P353
P304 + P340
P310

Wash/decontaminate removed clothing before reuse.
IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
Immediately call a POISON CENTRE/doctor/.

Storage

P403 + P235
P405

Store in a well-ventilated place. Keep cool.
Store locked up.

Disposal

P501

Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental label information

None.

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
Niobium Ethoxide	100	3236-82-6 221-795-2	-	-	
Classification:	Flam. Liq. 3;H226, Skin Corr. 1B;H314				

SECTION 4: First aid measures

General information

Consult a physician. Show this safety data sheet to the doctor in attendance. Remove victim immediately from source of exposure.

4.1. Description of first aid measures

Inhalation

Move into fresh air and keep at rest. If breathing has stopped, perform artificial respiration and obtain medical help. Consult a physician for specific advice.

Skin contact

Remove contaminated clothing and shoes. Wash off with soap and plenty of water. Get medical advice/attention if you feel unwell.

Eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Immediately transport to hospital or eye specialist. Continue rinsing.

Ingestion

Do not induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth thoroughly. Seek medical advice.

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

Not available.

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

Not available.

SECTION 5: Firefighting measures

General fire hazards

Not available.

5.1. Extinguishing media

Suitable extinguishing media

Water spray, foam, dry powder or carbon dioxide.

Unsuitable extinguishing media

Not available.

5.2. Special hazards arising from the substance or mixture

Not available.

5.3. Advice for firefighters

Special protective equipment for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Specific methods

Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	Wear necessary protective equipment. Avoid inhalation of vapour, fumes, dust and/or mist from the spilled material. Ensure adequate ventilation. Warn everybody of potential hazards and evacuate if necessary. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
For emergency responders	Not available.

6.2. Environmental precautions Not available.

6.3. Methods and material for containment and cleaning up Contain the discharged material. Use approved industrial vacuum cleaner for removal. Collect and dispose of spillage as indicated in section 13.

6.4. Reference to other sections Not available.

SECTION 7: Handling and storage

7.1. Precautions for safe handling Eliminate all sources of ignition. Material can accumulate static charges which may cause an electrical spark (ignition source). Use proper bonding and/or grounding procedures.

7.2. Conditions for safe storage, including any incompatibilities Not available.

7.3. Specific end use(s) Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Iceland. OELs. Regulation 154/1999 on occupational exposure limits

Material	Type	Value
Niobium Ethoxide (CAS 3236-82-6)	TWA	0,5 mg/m ³

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

Recommended monitoring procedures Not available.

Derived no effect levels (DNELs) Not available.

Predicted no effect concentrations (PNECs) Not available.

Exposure guidelines This material does not have established exposure limits.

8.2. Exposure controls

Appropriate engineering controls Observe good industrial hygiene practices.

Individual protection measures, such as personal protective equipment

General information Not available.

Eye/face protection Chemical goggles and face shield are recommended.

Skin protection

- Hand protection Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves.

- Other Wear appropriate chemical resistant 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 In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards Not available.

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 Not available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Clear. Liquid.
Physical state	Liquid.
Form	Not available.
Colour	Yellow-orange.
Odour	Not available.
Odour threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
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	Not available.
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 available.
Oxidising properties	Not available.
9.2. Other information	
Molecular formula	C2H6O,1/5Nb
Molecular weight	318,21 g/mol

SECTION 10: Stability and reactivity

10.1. Reactivity	Not available.
10.2. Chemical stability	Stable; however, may decompose if heated.
10.3. Possibility of hazardous reactions	Not available.
10.4. Conditions to avoid	May form explosive mixtures with air. Keep away from heat, spark, open flames and other sources of ignition.
10.5. Incompatible materials	Strong oxidising agents. Strong acids.
10.6. Hazardous decomposition products	Metal oxides. Carbon oxides.

SECTION 11: Toxicological information

General information	Not available.
Information on likely routes of exposure	
Inhalation	Not available.
Skin contact	Not available.
Eye contact	Not available.
Ingestion	Not available.
Symptoms	Not available.
11.1. Information on toxicological effects	
Acute toxicity	No data available.
Skin corrosion/irritation	Not available.

Serious eye damage/eye irritation	Not available.
Respiratory sensitisation	Not available.
Skin sensitisation	Not available.
Germ cell mutagenicity	Not available.

Carcinogenicity

Hungary. 26/2000 EüM Ordinance on protection against and preventing risk relating to exposure to carcinogens at work (as amended)

Not listed.

Reproductive toxicity	Not available.
Specific target organ toxicity - single exposure	Not available.
Specific target organ toxicity - repeated exposure	Not available.
Aspiration hazard	Not available.
Mixture versus substance information	Not available.
Other information	Not available.

SECTION 12: Ecological information

12.1. Toxicity	No toxicity data noted for the ingredient(s).
12.2. Persistence and degradability	Not available.
12.3. Bioaccumulative potential	Not available.
Partition coefficient n-octanol/water (log Kow)	Not available.
Bioconcentration factor (BCF)	Not available.
12.4. Mobility in soil	Not available.
12.5. Results of PBT and vPvB assessment	Not a PBT or vPvB substance or mixture.
12.6. Other adverse effects	Not available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste	Not available.
Contaminated packaging	Not available.
EU waste code	Not available.
Disposal methods/information	Contact specialist disposal companies.

SECTION 14: Transport information

ADR

14.1. - 14.6.: Not regulated as dangerous goods.

RID

14.1. - 14.6.: Not regulated as dangerous goods.

ADN

14.1. - 14.6.: Not regulated as dangerous goods.

IATA

14.1. - 14.6.: Not regulated as dangerous goods.

IMDG

14.1. - 14.6.: Not regulated as dangerous goods.

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.

National regulations

Not available.

15.2. Chemical safety assessment

Not available.

SECTION 16: Other information

List of abbreviations

Not available.

Information on evaluation method leading to the classification of mixture

Not available.