SAFETY DATA SHEET

MATERION

Version #: 04
Issue date: 05-January-2016
Revision date: 10-June-2024
Supersedes date: 12-January-2018

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

Registration number -

Synonyms None.

Materion Code 1XX

1.1. Product identifier

Name of the substance Nickel sulphide

Identification number 028-006-00-9 (Index number)

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 Electronic Materials

Address 6070 Parkland Blvd
Mayfield Heights, OH 44124
United States

Division

Telephone 1.216.383.4019

e-mail Materion-PS@materion.com

Contact person Product Stewardship Director

1.4. Emergency telephone number

Document number 1XX

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 classificatior applies.

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

Health hazards

Skin sensitisation	Category 1	H317 - May cause an allergic skin reaction.
Germ cell mutagenicity	Category 2	H341 - Suspected of causing genetic defects.
Carcinogenicity (inhalation)	Category 1A	H350i - May cause cancer by inhalation.
Specific target organ toxicity - repeated exposure	Category 1	H372 - Causes damage to organs through prolonged or repeated exposure.

Environmental hazards

Hazardous to the aquatic environment, acute aquatic hazard	Category 1	H400 - Very toxic to aquatic life.
Hazardous to the aquatic environment, long-term aquatic hazard	Category 1	H410 - Very toxic to aquatic life with long lasting effects.

2.2. Label elements

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

Contains: nickel (II) sulfide; [1] nickel sulfide; [2] millerite [3]

Hazard pictograms

Signal word Danger

Hazard statements

H317	May cause an allergic skin reaction.
H341	Suspected of causing genetic defects.
H350i	May cause cancer by inhalation.
H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

Response

P302 + P352	IF ON SKIN: Wash with plenty of water.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P391	Collect spillage.

Storage

P405	Store locked up.

Disposal

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

Supplemental label information Restricted to professional users.
For further information, please contact the Product Stewardship Department at +1.800.862.4118.

2.3. Other hazards This substance does not meet vPvB / PBT criteria of Regulation (EC) No 1907/2006, Annex XIII. The substance is not included in the list established in accordance with REACH Article 59(1) for having endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.1. Substances

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
nickel (II) sulfide; [1] nickel sulfide; [2] millerite [3]	100	16812-54-7 240-841-2	-	028-006-00-9	#

Classification: Skin Sens. 1;H317, Muta. 2;H341, Carc. 1A;H350i, STOT RE 1;H372, Aquatic Acute 1;H400, Aquatic Chronic 1;H410

List of abbreviations and symbols that may be used above

DSD: Directive 67/548/EEC.
CLP: Regulation No. 1272/2008.
ATE: Acute toxicity estimate.
M: M-factor
vPvB: very persistent and very bioaccumulative substance.
PBT: persistent, bioaccumulative and toxic substance.
#: This substance has been assigned Union workplace exposure limit(s).
All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Composition comments The full text for all H-statements is displayed in section 16.

SECTION 4: First aid measures

General information IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

4.1. Description of first aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions.

Eye contact Rinse with water. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth. Get medical attention if symptoms occur.

4.2. Most important symptoms and effects, both acute and delayed May cause an allergic skin reaction. Dermatitis. Rash. Prolonged exposure may cause chronic effects.

4.3. Indication of any immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Firefighting measures

General fire hazards No unusual fire or explosion hazards noted.

5.1. Extinguishing media

Suitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture During fire, gases hazardous to health may be formed.

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.

Special firefighting procedures Move containers from fire area if you can do so without risk.

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 Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

For emergency responders Keep unnecessary personnel away. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. Use personal protection recommended in Section 8 of the SDS.

6.2. Environmental precautions Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Following product recovery, flush area with water. Put material in suitable, covered, labeled containers.

6.4. Reference to other sections For personal protection, see section 8 of the SDS. For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities

Store locked up. Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

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

ANNEX 1, PART 1 Categories of dangerous substances
Hazard categories in accordance with Regulation (EC) No 1272/2008
- E1 Hazardous to the Aquatic Environment Acute (Lower-tier requirements = 100 tonnes; Upper-tier requirements = 200 tonnes)
- E1 Hazardous to the Aquatic Environment Chronic (Lower-tier requirements = 100 tonnes; Upper-tier requirements = 200 tonnes)

ANNEX 1, PART 2 Named dangerous substances
- 11. Nickel compounds in inhalable powder form: nickel monoxide, nickel dioxide, nickel sulphide, trinickel disulphide, dinickel trioxide (Upper-tier requirements = 1 tonne)

7.3. Specific end use(s)

Observe industrial sector guidance on best practices.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Bulgaria. OELs. Ordinance No 13 on protection of workers against risks of exposure to chemical agents at work, as amended

Material	Type	Value
nickel (II) sulfide; [1] nickel sulfide; [2] millerite [3] (CAS 16812-54-7)	TWA	0,05 mg/m3

Croatia. OELs (GVI). Regulation on Protection of Workers against Exposure to Dangerous Chemicals at Work, OELs and Biological Limit Values, Annex I (NN 91/2018), as amended

Material	Type	Value
nickel (II) sulfide; [1] nickel sulfide; [2] millerite [3] (CAS 16812-54-7)	STEL	1 mg/m3

Cyprus. OELs. Control of factory atmosphere and dangerous substances in factories regulation, PI 311/73, as amended

Material	Type	Value
nickel (II) sulfide; [1] nickel sulfide; [2] millerite [3] (CAS 16812-54-7)	TWA	1 mg/m3

Czech Republic. Occupational exposure limit values of chemicals at work (Decree on protection of health at work, 361/2007, Annex 2, Part A & Annex 3, Part A, as amended)

Material	Type	Value	Form
nickel (II) sulfide; [1] nickel sulfide; [2] millerite [3] (CAS 16812-54-7)	Ceiling	0,25 mg/m3	Aerosol, inhalable.
	TWA	0,05 mg/m3	Aerosol, inhalable.

Denmark. Work Environment Authority. Exposure Limits for Substances & Materials, Annex 2

Material	Type	Value
nickel (II) sulfide; [1] nickel sulfide; [2] millerite [3] (CAS 16812-54-7)	TLV	0,05 mg/m3

Estonia. OELs. Occupational Exposure Limits of Hazardous Substances (Regulation No. 105/2001, Annex), as amended

Material	Type	Value
nickel (II) sulfide; [1] nickel sulfide; [2] millerite [3] (CAS 16812-54-7)	TWA	0,1 mg/m3

France. Threshold Limit Values (VLEP) for Occupational Exposure to Chemicals in France, INRS ED 984

Material	Type	Value
nickel (II) sulfide; [1] nickel sulfide; [2] millerite [3] (CAS 16812-54-7)	VME	1 mg/m3

Regulatory status: Indicative limit (VL)

Germany. TRGS 900, Limit Values in the Ambient Air at the Workplace

Material	Type	Value	Form
nickel (II) sulfide; [1] nickel sulfide; [2] millerite [3] (CAS 16812-54-7)	AGW	0,03 mg/m3	Inhalable fraction.

Greece. OELs, Presidential Decree No. 307/1986, as amended

Material	Type	Value
nickel (II) sulfide; [1] nickel sulfide; [2] millerite [3] (CAS 16812-54-7)	TWA	1 mg/m3

Hungary. OELs. Decree on protection of workers exposed to chemical agents (5/2020. (II.6)), Annex 1&2, as amended

Material	Type	Value
nickel (II) sulfide; [1] nickel sulfide; [2] millerite [3] (CAS 16812-54-7)	TWA	0,01 mg/m3

Iceland. OELs. Regulation 390/2009 on Pollution Limits and Measures to Reduce Pollution at the Workplace, as amended

Material	Type	Value
nickel (II) sulfide; [1] nickel sulfide; [2] millerite [3] (CAS 16812-54-7)	TWA	1 mg/m3

Ireland. OELVs, Schedules 1 & 2, Code of Practice for Chemical Agents and Carcinogens Regulations

Material	Type	Value
nickel (II) sulfide; [1] nickel sulfide; [2] millerite [3] (CAS 16812-54-7)	TWA	0,5 mg/m3

Italy. OELs (Legislative Decree n.81, 9 April 2008), as amended

Material	Type	Value	Form
nickel (II) sulfide; [1] nickel sulfide; [2] millerite [3] (CAS 16812-54-7)	TWA	0,2 mg/m3	Inhalable fraction.

Lithuania. OELs. Occupational Exposure Limit Values for Chemical Substances (Hygiene Norm HN 23:2011; Order No. V-824/A1-389), as amended

Material	Type	Value
nickel (II) sulfide; [1] nickel sulfide; [2] millerite [3] (CAS 16812-54-7)	TWA	0,1 mg/m3

Norway. Regulation No. 1358 on Measures and Limit Values for Physical and Chemical Factors in Work Environment and Infection Groups for Biological Factors, as amended

Material	Type	Value
nickel (II) sulfide; [1] nickel sulfide; [2] millerite [3] (CAS 16812-54-7)	TLV	0,05 mg/m3

Poland. Maximum permissible concentrations and intensities of harmful factors in the work environment (Dz.U.Poz. 1286/2018, Annex 1)

Material	Type	Value
nickel (II) sulfide; [1] nickel sulfide; [2] millerite [3] (CAS 16812-54-7)	TWA	0,25 mg/m3

Portugal. VLEs. Norm on occupational exposure to chemical agents (NP 1796-2014)

Material	Type	Value	Form
nickel (II) sulfide; [1] nickel sulfide; [2] millerite [3] (CAS 16812-54-7)	TWA	0,2 mg/m3	Inhalable fraction.

Romania. OELs. Limit Values of Chemical Agents at Workplace (Regulation 1.218/2006, M.O 845, Annex 1, 3&4, as amended)

Material	Type	Value
nickel (II) sulfide; [1] nickel sulfide; [2] millerite [3] (CAS 16812-54-7)	STEL	0,5 mg/m3
	TWA	0,1 mg/m3

Slovakia. OELs for carcinogens and mutagens. Regulation No. 356/2006 on carcinogenic and mutagenic substances, as amended

Material	Type	Value	Form
nickel (II) sulfide; [1] nickel sulfide; [2] millerite [3] (CAS 16812-54-7)	TWA	0,5 mg/m3	Inhalable fraction.

EU. OELs, Directive 2004/37/EC on carcinogen and mutagens from Annex III, Part A

Material	Type	Value	Form
nickel (II) sulfide; [1] nickel sulfide; [2] millerite [3] (CAS 16812-54-7)	TWA	0,05 mg/m3	Inhalable fraction.
		0,01 mg/m3	Respirable fraction.

Biological limit values

Finland. HTP-arvot, App 2., Biological Limit Values, Social Affairs and Ministry of Health

Material	Value	Determinant	Specimen	Sampling Time
nickel (II) sulfide; [1] nickel sulfide; [2] millerite [3] (CAS 16812-54-7)	0,1 umol/l	Nickel	Urine	*

* - For sampling details, please see the source document.

Hungary. BELs. Decree on protection of workers exposed to chemical agents (5/2020. (II.6)), Annex 3&4, as amended

Material	Value	Determinant	Specimen	Sampling Time
nickel (II) sulfide; [1] nickel sulfide; [2] millerite [3] (CAS 16812-54-7)	0,051 µmol/l	Nickel	Urine	*
	0,003 mg/l	Nickel	Urine	*

* - For sampling details, please see the source document.

Recommended monitoring procedures Follow standard monitoring procedures.

Derived no effect levels (DNELs) Not available.

Predicted no effect concentrations (PNECs) Not available.

Exposure guidelines

Slovakia OELs for Carcinogens and Mutagens: Skin designation

nickel (II) sulfide; [1] nickel sulfide; [2] millerite [3] (CAS 16812-54-7) Can be absorbed through the skin.

8.2. Exposure controls

Appropriate engineering controls Good general ventilation 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.

Individual protection measures, such as personal protective equipment

General information Use personal protective equipment as required. 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	If contact is likely, safety glasses with side shields are recommended.
Skin protection	
- Hand protection	Wear appropriate chemical resistant gloves.
- Other	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
Hygiene measures	Observe any medical surveillance requirements. 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. Contaminated work clothing should not be allowed out of the workplace.
Environmental exposure controls	Inform appropriate managerial or supervisory personnel of all environmental releases. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. Fume scrubbers, filters or engineering modifications to the process equipment may be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid.
Form	Solid.
Colour	Not available.
Odour	Not available.
Melting point/freezing point	Not available.
Boiling point or initial boiling point and boiling range	Not available.
Flammability	Not available.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit – upper (%)	Not available.
Flash point	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
pH	Not available.
Kinematic viscosity	Not available.
Solubility	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water) (log value)	Not available.
Vapour pressure	<0,0000001 kPa (25 °C (77 °F))
Density and/or relative density	Not available.
Vapour density	Not available.
Particle characteristics	Not available.

9.2. Other information

9.2.1. Information with regard to physical hazard classes	No relevant additional information available.
9.2.2. Other safety characteristics	
Molecular formula	NiS
Molecular weight	90,75 g/mol

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid Contact with incompatible materials.

10.5. Incompatible materials Strong oxidising agents.

10.6. Hazardous decomposition products No hazardous decomposition products are known.

SECTION 11: Toxicological information

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

Information on likely routes of exposure

Inhalation May cause cancer by inhalation. Prolonged inhalation may be harmful.

Skin contact May cause an allergic skin reaction.

Eye contact Direct contact with eyes may cause temporary irritation.

Ingestion May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.

Symptoms May cause an allergic skin reaction. Dermatitis. Rash.

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity Due to partial or complete lack of data the classification is not possible.

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 May cause an allergic skin reaction.

Germ cell mutagenicity Suspected of causing genetic defects.

Carcinogenicity May cause cancer.

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

nickel (II) sulfide; [1] nickel sulfide; [2] millerite [3] (CAS 16812-54-7)

IARC Monographs. Overall Evaluation of Carcinogenicity

nickel (II) sulfide; [1] nickel sulfide; [2] millerite [3] (CAS 16812-54-7) 1 Carcinogenic to humans.

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 Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard Due to partial or complete lack of data the classification is not possible.

Mixture versus substance information No information available.

11.2. Information on other hazards

Endocrine disrupting properties This substance does not have endocrine disrupting properties with respect to human health, as it does not meet the assessment criteria laid out in Regulations (EC) No 1907/2006, (EU) No 2017/2100 and (EU) 2018/605.

Other information Not available.

SECTION 12: Ecological information

12.1. Toxicity Very toxic to aquatic life with long lasting effects.

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 This substance does not meet vPvB / PBT criteria of Regulation (EC) No 1907/2006, Annex XIII.

12.6. Endocrine disrupting properties This substance does not have endocrine disrupting properties with respect to the environment, as it does not meet the assessment criteria laid out in Regulations (EC) No 1907/2006, (EU) No 2017/2100 and (EU) 2018/605.

12.7. 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.

12.8. Additional information

Estonia Dangerous substances in soil Data

nickel (II) sulfide; [1] nickel sulfide; [2] millerite [3] (CAS 16812-54-7)	Nickel (Ni) 150 mg/kg
	Nickel (Ni) 50 mg/kg
	Nickel (Ni) 500 mg/kg

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).

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.

Disposal methods/information Collect and reclaim or dispose in sealed containers at licensed waste disposal site. 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	UN3077
14.2. UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (nickel (II) sulfide; [1] nickel sulfide; [2] millerite [3])
14.3. Transport hazard class(es)	
Class	9
Subsidiary risk	-
Label(s)	9
Hazard No. (ADR)	90
Tunnel restriction code	-
14.4. Packing group	III
14.5. Environmental hazards	Yes
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

RID

14.1. UN number	UN3077
14.2. UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (nickel (II) sulfide; [1] nickel sulfide; [2] millerite [3])
14.3. Transport hazard class(es)	
Class	9
Subsidiary risk	-
Label(s)	9
14.4. Packing group	III
14.5. Environmental hazards	Yes
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

ADN

14.1. UN number	UN3077
14.2. UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (nickel (II) sulfide; [1] nickel sulfide; [2] millerite [3])
14.3. Transport hazard class(es)	
Class	9

Subsidiary risk -
Label(s) 9

14.4. Packing group III

14.5. Environmental hazards Yes

14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IATA

14.1. UN number Not regulated as dangerous goods.

14.2. UN proper shipping name Not regulated as dangerous goods.

14.3. Transport hazard class(es)

Class Not assigned.
Subsidiary risk -

14.4. Packing group -

14.5. Environmental hazards No.

14.6. Special precautions for user Not assigned.

IMDG

14.1. UN number Not regulated as dangerous goods.

14.2. UN proper shipping name Not regulated as dangerous goods.

14.3. Transport hazard class(es)

Class Not assigned.
Subsidiary risk -

14.4. Packing group -

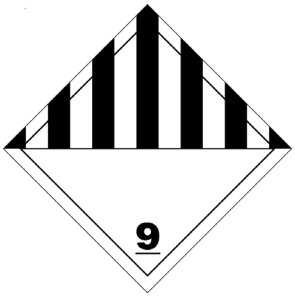
14.5. Environmental hazards

Marine pollutant No.

EmS Not assigned.

14.6. Special precautions for user Not assigned.

ADN; ADR; RID



Marine pollutant

General information IMDG Regulated Marine Pollutant.

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 (EU) 2019/1021 On persistent organic pollutants (recast), 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

nickel (II) sulfide; [1] nickel sulfide; [2] millerite [3] (CAS 16812-54-7)

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 - Conditions of restriction given for the associated entry number should be considered

nickel (II) sulfide; [1] nickel sulfide; [2] millerite [3] (CAS 16812-54-7)

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

nickel (II) sulfide; [1] nickel sulfide; [2] millerite [3] (CAS 16812-54-7)

Regulation 2019/1148 on Marketing and Use of Explosive Precursors, Annex I, as amended

Not listed.

Regulation 2019/1148 on Marketing and Use of Explosive Precursors, Annex II, as amended

Not listed.

Other EU regulations

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

ANNEX 1, PART 1 Categories of dangerous substances
Hazard categories in accordance with Regulation (EC) No 1272/2008
- E1 Hazardous to the Aquatic Environment Acute
- E1 Hazardous to the Aquatic Environment Chronic

ANNEX 1, PART 2 Named dangerous substances
- 11. Nickel compounds in inhalable powder form: nickel monoxide, nickel dioxide, nickel sulphide, trinickel disulphide, dinickel trioxide

Other regulations

The product is classified and labelled in accordance with EC directives or respective national laws
The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.

National regulations

Follow national regulation for work with chemical agents.
According to Directive 92/85/EEC as amended, pregnant women should not work with the product, if there is the least risk of exposure.

Young people under 18 years old are not allowed to work with this product according to EU Directive 94/33/EC on the protection of young people at work, as amended Use of this product by young persons under the age of 18 is not allowed in accordance with the Management of Health and Safety at Work Regulations 1999 [SI 1999/3242], as amended. Follow national regulation on the protection of workers from the risks of exposure to carcinogens and mutagens at work, in accordance with Directive 2004/37/EC, as amended.

Contains a substance which is included on the TRGS 907 list of registry of sensitizing substances

nickel (II) sulfide; [1] nickel sulfide; [2] millerite [3] (CAS 16812-54-7)	Nickelverbindungen, Wasserlösliche insbesondere Ni-sulfat und Ni-dichlorid

France regulations

France INRS Table of Occupational Diseases

nickel (II) sulfide; [1] nickel sulfide; [2] millerite [3] (CAS 16812-54-7)	Affections cutanées professionnelles causées par les oxydes et les sels de nickel 37 Affections respiratoires causées par les oxydes et les sels de nickel 37 bis

15.2. Chemical safety assessment No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations

ADN: European Agreement Concerning the International Carriage of Dangerous Goods by Inland Waterways.
ADR: Agreement concerning the International Carriage of Dangerous Goods by Road.
AGW: Occupational threshold limit value (Arbeitsplatzgrenzwert – Germany).
CAS: Chemical Abstract Service.
CEN: European Committee for Standardization.
IATA: International Air Transport Association.
IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk.
IMDG: International Maritime Dangerous Goods.
MAC: Maximum Allowed Concentration.
MARPOL: International Convention for the Prevention of Pollution from Ships.
PBT: Persistent, bioaccumulative and toxic.
RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.
STEL: Short term exposure limit.
TLV: Threshold Limit Value.
TWA: Time Weighted Average.
VLE: Exposure Limit Value.
VME: Exposure Average Value.
vPvB: Very persistent and very bioaccumulative.

References Not available.

Information on evaluation method leading to the classification of mixture Not applicable.

Full text of any statements, which are not written out in full under sections 2 to 15

H317 May cause an allergic skin reaction.
H341 Suspected of causing genetic defects.
H350i May cause cancer by inhalation.
H372 Causes damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

Revision information This document has undergone significant changes and should be reviewed in its entirety.

Training information Follow training instructions when handling this material.

Further information

Transportation Emergency
Call Chemtrec at:
US: 800.424.9300
International: 703.741.5970
Spain: 900.868.538
Switzerland: 0800.564.402
Chemtrec's toll free, mobile-enabled number in Germany – 0800 1817059
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