



SAFETY DATA SHEET

MATERION

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

1.1. Product identifier

Name of the substance Nickel Phosphide (Ni₂P)
Identification number 028-056-00-1 (Index number)
Synonyms None.
Document number N-MSDS0072
Issue date 04-May-2015
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 Directive 67/548/EEC or 1999/45/EC as amended

Classification Carc. Cat. 1;R49, T;R48/23, R43, N;R50/53

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

Health hazards

| | | |
|--|-------------|--|
| Skin sensitisation | Category 1 | H317 - May cause an allergic skin reaction. |
| 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. |

Hazard summary

Physical hazards Not classified for physical hazards.
Health hazards May cause cancer by inhalation. Toxic: danger of serious damage to health by prolonged exposure through inhalation. May cause sensitisation by skin contact.
Environmental hazards Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Specific hazards Not available.
Main symptoms Not available.

2.2. Label elements

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

| | |
|--------------------------|---|
| Contains: | Nickel Phosphide |
| Hazard pictograms | None. |
| Signal word | Danger |
| Hazard statements | |
| H317 | May cause an allergic skin reaction. |
| 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/vapors/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. |

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

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 |
|------------------------|-------------|---|------------------------|--------------|-------|
| Nickel Phosphide | 100 | 12035-64-2 234-828-0 | - | 028-056-00-1 | |
| Classification: | DSD: | Carc. Cat. 1;R49, T;R48/23, R43, N;R50/53 | | | E |
| | CLP: | Skin Sens. 1;H317, Carc. 1A;H350i, STOT RE 1;H372, Aquatic Acute 1;H400, Aquatic Chronic 1;H410 | | | |

SECTION 4: First aid measures**General information** Not available.**4.1. Description of first aid measures**

| | |
|---------------------|----------------|
| Inhalation | Not available. |
| Skin contact | Not available. |
| Eye contact | Not available. |
| Ingestion | Not available. |

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 Not available.

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 Not available.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Not available.

For emergency responders Not available.

6.2. Environmental precautions Not available.

6.3. Methods and material for containment and cleaning up Not available.

6.4. Reference to other sections Not available.

SECTION 7: Handling and storage

7.1. Precautions for safe handling Not available.

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 No exposure limits noted for ingredient(s).

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

Recommended monitoring procedures Not available.

Derived no-effect level (DNEL) Not available.

Predicted no effect concentrations (PNECs) Not available.

8.2. Exposure controls

Appropriate engineering controls Not available.

Individual protection measures, such as personal protective equipment

General information Not available.

Eye/face protection Not available.

Skin protection

- Hand protection Not available.

- Other Not available.

Respiratory protection Not available.

| | |
|--|----------------|
| Thermal hazards | Not available. |
| Hygiene measures | Not available. |
| Environmental exposure controls | Not available. |

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

| | |
|--|-----------------|
| Physical state | Solid. |
| Form | Not available. |
| Colour | Not available. |
| Odour | Not applicable. |
| 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 applicable. |

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. |
| Solubility (other) | 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. |
| Oxidizing properties | Not available. |

9.2. Other information

| | |
|--------------------------|-------------------|
| Molecular formula | Ni ₂ P |
|--------------------------|-------------------|

SECTION 10: Stability and reactivity

| | |
|---|----------------|
| 10.1. Reactivity | Not available. |
| 10.2. Chemical stability | Not available. |
| 10.3. Possibility of hazardous reactions | Not available. |
| 10.4. Conditions to avoid | Not available. |
| 10.5. Incompatible materials | Not available. |
| 10.6. Hazardous decomposition products | Not available. |

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

IARC Monographs. Overall Evaluation of Carcinogenicity

Nickel Phosphide (CAS 12035-64-2)

1 Carcinogenic to humans.

| | |
|---|----------------|
| 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. |

SECTION 14: Transport information

ADR

Not regulated as dangerous goods.

RID

Not regulated as dangerous goods.

ADN

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

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, as amended
Not listed.

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex II, as amended
Not listed.

Regulation (EC) No. 850/2004 on persistent organic pollutants, Annex I
Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1
Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2
Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3
Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex V
Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended
Nickel Phosphide (CAS 12035-64-2)

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.

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended
Nickel Phosphide (CAS 12035-64-2)

Restrictions on use

Regulation (EC) No. 1907/2006 Annex XVII Substances subject to restriction on marketing and use
Not regulated.

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended
Nickel Phosphide (CAS 12035-64-2)

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding, as amended
Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances
Nickel Phosphide (CAS 12035-64-2)

Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work, as amended
Nickel Phosphide (CAS 12035-64-2)

Directive 94/33/EC on the protection of young people at work, as amended
Nickel Phosphide (CAS 12035-64-2)

National regulations Not available.

15.2. Chemical safety assessment Not available.

SECTION 16: Other information

List of abbreviations Not available.

References Not available.

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

Full text of any statements or R-phrases and H-statements under Sections 2 to 15

R43 May cause sensitisation by skin contact.
R48/23 Toxic: danger of serious damage to health by prolonged exposure through inhalation.
R49 May cause cancer by inhalation.

R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

H317 May cause an allergic skin reaction.

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.

None.

Not available.

Revision information

Training information