



# SAFETY DATA SHEET

**MATERION**

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

### 1.1. Product identifier

**Name of the substance** Cobalt Phosphide  
**Identification number** 235-212-4 (EC number)  
**Registration number** -  
**Document number** 1IH  
**Synonyms** None.  
**Materion Code** 1IH  
**Issue date** 04-June-2015  
**Version number** 03  
**Revision date** 12-February-2021

### 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** Laura Hamilton

### 1.4. Emergency telephone number

**Supersedes date** 10-January-2018

### 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

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### 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 classifier applies.

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

**Health hazards**  
Carcinogenicity Category 2 H351 - Suspected of causing cancer.

## Hazard summary

Suspected of causing cancer. Prolonged exposure may cause chronic effects. Occupational exposure to the substance or mixture may cause adverse health effects. The material as sold in solid form is generally not considered hazardous. However, if the process involves grinding, melting, cutting or any other process that causes a release of dust or fumes, hazardous levels of airborne particulate could be generated.

## 2.2. Label elements

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

**Contains:** Cobalt Phosphide

#### Hazard pictograms



**Signal word** Warning

#### Hazard statements

H351 Suspected of causing cancer.

### Precautionary statements

#### Prevention

P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P281 Use personal protective equipment as required.

#### Response

P308 + P313 IF exposed or concerned: Get medical advice/attention.

#### Storage

P405 Store locked up.

#### Disposal

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

### Supplemental label information

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.

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

#### General information

| Chemical name    | %   | CAS-No. / EC No.        | REACH Registration No. | Index No. | Notes |
|------------------|-----|-------------------------|------------------------|-----------|-------|
| Cobalt Phosphide | 100 | 12134-02-0<br>235-212-4 | -                      | -         |       |

**Classification:** Carc. 2;H351

#### List of abbreviations and symbols that may be used above

DSD: Directive 67/548/EEC.

CLP: Regulation No. 1272/2008.

#: This substance has been assigned Union workplace exposure limit(s).

#: This substance has been assigned Community workplace exposure limit(s).

M: M-factor

PBT: persistent, bioaccumulative and toxic substance.

vPvB: very persistent and very bioaccumulative substance.

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

## SECTION 4: First aid measures

### General information

IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

#### 4.1. Description of first aid measures

##### Inhalation

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

##### Skin contact

Wash off with soap and water. Get medical attention if irritation develops and persists.

##### 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

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. 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 (CO<sub>2</sub>).

##### 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

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. 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. 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. 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 prolonged exposure. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. 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).

#### 7.3. Specific end use(s)

Not available.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### Occupational exposure limits

##### Bulgaria. OELs. Regulation No 13 on protection of workers against risks of exposure to chemical agents at work

| Material                          | Type | Value                 |
|-----------------------------------|------|-----------------------|
| Cobalt Phosphide (CAS 12134-02-0) | TWA  | 0,1 mg/m <sup>3</sup> |

##### Croatia. Dangerous Substance Exposure Limit Values in the Workplace (ELVs), Annexes 1 and 2, Narodne Novine, 13/09

| Material                          | Type | Value                 |
|-----------------------------------|------|-----------------------|
| Cobalt Phosphide (CAS 12134-02-0) | MAC  | 0,1 mg/m <sup>3</sup> |

**Czech Republic. OELs. Government Decree 361**

| Material                          | Type    | Value                  |
|-----------------------------------|---------|------------------------|
| Cobalt Phosphide (CAS 12134-02-0) | Ceiling | 0,1 mg/m <sup>3</sup>  |
|                                   | TWA     | 0,05 mg/m <sup>3</sup> |

**Denmark. Exposure Limit Values**

| Material                          | Type | Value                  |
|-----------------------------------|------|------------------------|
| Cobalt Phosphide (CAS 12134-02-0) | TLV  | 0,01 mg/m <sup>3</sup> |

**Estonia. OELs. Occupational Exposure Limits of Hazardous Substances. (Annex of Regulation No. 293 of 18 September 2001)**

| Material                          | Type | Value                  |
|-----------------------------------|------|------------------------|
| Cobalt Phosphide (CAS 12134-02-0) | TWA  | 0,05 mg/m <sup>3</sup> |

**Finland. Workplace Exposure Limits**

| Material                          | Type | Value                  |
|-----------------------------------|------|------------------------|
| Cobalt Phosphide (CAS 12134-02-0) | TWA  | 0,02 mg/m <sup>3</sup> |

**Greece. OELs (Decree No. 90/1999, as amended)**

| Material                          | Type | Value                 |
|-----------------------------------|------|-----------------------|
| Cobalt Phosphide (CAS 12134-02-0) | TWA  | 0,1 mg/m <sup>3</sup> |

**Hungary. OELs. Joint Decree on Chemical Safety of Workplaces**

| Material                          | Type | Value                 |
|-----------------------------------|------|-----------------------|
| Cobalt Phosphide (CAS 12134-02-0) | STEL | 0,4 mg/m <sup>3</sup> |
|                                   | TWA  | 0,1 mg/m <sup>3</sup> |

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

| Material                          | Type | Value                  | Form           |
|-----------------------------------|------|------------------------|----------------|
| Cobalt Phosphide (CAS 12134-02-0) | TWA  | 0,02 mg/m <sup>3</sup> | Dust and fume. |

**Ireland. Occupational Exposure Limits**

| Material                          | Type | Value                 |
|-----------------------------------|------|-----------------------|
| Cobalt Phosphide (CAS 12134-02-0) | TWA  | 0,1 mg/m <sup>3</sup> |

**Italy. Occupational Exposure Limits**

| Material                          | Type | Value                  |
|-----------------------------------|------|------------------------|
| Cobalt Phosphide (CAS 12134-02-0) | TWA  | 0,02 mg/m <sup>3</sup> |

**Lithuania. OELs. Limit Values for Chemical Substances, General Requirements**

| Material                          | Type | Value                  |
|-----------------------------------|------|------------------------|
| Cobalt Phosphide (CAS 12134-02-0) | TWA  | 0,05 mg/m <sup>3</sup> |

**Poland. Ordinance of the Minister of Labour and Social Policy on 6 June 2014 on the maximum permissible concentrations and intensities of harmful health factors in the work environment, Journal of Laws 2014, item 817**

| Material                          | Type | Value                  |
|-----------------------------------|------|------------------------|
| Cobalt Phosphide (CAS 12134-02-0) | TWA  | 0,02 mg/m <sup>3</sup> |

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

| Material                          | Type | Value                  |
|-----------------------------------|------|------------------------|
| Cobalt Phosphide (CAS 12134-02-0) | TWA  | 0,02 mg/m <sup>3</sup> |

**Slovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents**

| Material                          | Type | Value                  |
|-----------------------------------|------|------------------------|
| Cobalt Phosphide (CAS 12134-02-0) | TWA  | 0,05 mg/m <sup>3</sup> |

**Spain. Occupational Exposure Limits**

| Material                          | Type | Value                  |
|-----------------------------------|------|------------------------|
| Cobalt Phosphide (CAS 12134-02-0) | TWA  | 0,02 mg/m <sup>3</sup> |

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

| Material                          | Type | Value                  | Form            |
|-----------------------------------|------|------------------------|-----------------|
| Cobalt Phosphide (CAS 12134-02-0) | TWA  | 0,02 mg/m <sup>3</sup> | Inhalable dust. |

**Switzerland. SUVA Grenzwerte am Arbeitsplatz**

| Material                          | Type | Value                  | Form                     |
|-----------------------------------|------|------------------------|--------------------------|
| Cobalt Phosphide (CAS 12134-02-0) | TWA  | 0,05 mg/m <sup>3</sup> | Dust/aerosol, inhalable. |

**UK. EH40 Workplace Exposure Limits (WELs)**

| Material                          | Type | Value                 |
|-----------------------------------|------|-----------------------|
| Cobalt Phosphide (CAS 12134-02-0) | TWA  | 0,1 mg/m <sup>3</sup> |

**Biological limit values****France. Biological indicators of exposure (IBE) (National Institute for Research and Security (INRS, ND 2065)**

| Material                          | Value   | Determinant | Specimen | Sampling Time |
|-----------------------------------|---------|-------------|----------|---------------|
| Cobalt Phosphide (CAS 12134-02-0) | 15 µg/l | Cobalt      | Urine    | *             |
|                                   | 1 µg/l  | Cobalt      | Blood    | *             |

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

**Hungary. Chemical Safety at Workplace Ordinance Joint Decree No. 25/2000 (Annex 2): Permissible limit values of biological exposure (effect) indices**

| Material                          | Value           | Determinant | Specimen            | Sampling Time |
|-----------------------------------|-----------------|-------------|---------------------|---------------|
| Cobalt Phosphide (CAS 12134-02-0) | 0,03 mg/g       | Cobalt      | Creatinine in urine | *             |
|                                   | 0,058 µmol/mmol | Cobalt      | Creatinine in urine | *             |

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

**Spain. Biological Limit Values (VLBs), Occupational Exposure Limits for Chemical Agents, Table 4**

| Material                          | Value   | Determinant | Specimen | Sampling Time |
|-----------------------------------|---------|-------------|----------|---------------|
| Cobalt Phosphide (CAS 12134-02-0) | 15 µg/l | Cobalto     | Urine    | *             |
|                                   | 1 µg/l  | Cobalto     | Blood    | *             |

\* - 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.

**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.

|  |  |
|--|--|
| <b>Eye/face protection</b>             | If contact is likely, safety glasses with side shields are recommended.  |
| <b>Skin protection</b>                 |  |
| - <b>Hand protection</b>               | Wear appropriate chemical resistant gloves.  |
| - <b>Other</b>                         | Use of an impervious apron is recommended.   |
| <b>Respiratory protection</b>          | In case of insufficient ventilation, wear suitable respiratory equipment.  |
| <b>Thermal hazards</b>                 | Wear appropriate thermal protective clothing, when necessary.  |
| <b>Hygiene measures</b>                | 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.                                 |
| <b>Environmental exposure controls</b> | 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

#### Appearance

|  |                |
|--|----------------|
| <b>Physical state</b>                          | Solid.         |
| <b>Form</b>                                    | Solid.         |
| <b>Colour</b>                                  | Not available. |
| <b>Odour</b>                                   | Not available. |
| <b>Odour threshold</b>                         | Not available. |
| <b>pH</b>                                      | Not available. |
| <b>Melting point/freezing point</b>            | Not available. |
| <b>Initial boiling point and boiling range</b> | Not available. |
| <b>Flash point</b>                             | Not available. |
| <b>Evaporation rate</b>                        | Not available. |
| <b>Flammability (solid, gas)</b>               | Not available. |

#### Upper/lower flammability or explosive limits

|  |                |
|--|----------------|
| <b>Flammability limit - lower (%)</b>          | Not available. |
| <b>Flammability limit - upper (%)</b>          | Not available. |
| <b>Vapour pressure</b>                         | Not available. |
| <b>Vapour density</b>                          | Not available. |
| <b>Relative density</b>                        | Not available. |
| <b>Solubility(ies)</b>                         |                |
| <b>Solubility (water)</b>                      | Not available. |
| <b>Partition coefficient (n-octanol/water)</b> | Not available. |
| <b>Auto-ignition temperature</b>               | Not available. |
| <b>Decomposition temperature</b>               | Not available. |
| <b>Viscosity</b>                               | Not available. |
| <b>Explosive properties</b>                    | Not explosive. |
| <b>Oxidising properties</b>                    | Not oxidising. |

### 9.2. Other information

|                          |                   |
|--------------------------|-------------------|
| <b>Molecular formula</b> | Co <sub>2</sub> P |
|--------------------------|-------------------|

## SECTION 10: Stability and reactivity

|   |  |
|---|--|
| <b>10.1. Reactivity</b>                         | The product is stable and non-reactive under normal conditions of use, storage and transport.    |
| <b>10.2. Chemical stability</b>                 | Material is stable under normal conditions.  |
| <b>10.3. Possibility of hazardous reactions</b> | No dangerous reaction known under conditions of normal use.                                      |
| <b>10.4. Conditions to avoid</b>                | Avoid temperatures exceeding the decomposition temperature. Contact with incompatible materials. |
| <b>10.5. Incompatible materials</b>             | 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** Prolonged inhalation may be harmful.  
**Skin contact** No adverse effects due to skin contact are expected.  
**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** 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** Suspected of causing cancer.

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

Not listed.

#### IARC Monographs. Overall Evaluation of Carcinogenicity

Cobalt Phosphide (CAS 12134-02-0) 2B Possibly 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** 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** Due to partial or complete lack of data the classification for hazardous to the aquatic environment, is not possible.  
**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. 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.

### 12.7. Additional information

#### Estonia Dangerous substances in soil Data

Cobalt Phosphide (CAS 12134-02-0) Cobalt (Co) 20 mg/kg  
Cobalt (Co) 300 mg/kg  
Cobalt (Co) 50 mg/kg

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

|                                     |  |
|-------------------------------------|--|
| <b>Residual waste</b>               | 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). |
| <b>Contaminated packaging</b>       | 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.       |
| <b>EU waste code</b>                | The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.   |
| <b>Disposal methods/information</b> | Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.                         |
| <b>Special precautions</b>          | Dispose in accordance with all applicable regulations.   |

## 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 (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**

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 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. Follow national regulation for work with chemical agents in accordance with Directive 98/24/EC, as amended.

## 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: European 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: Intermediate Bulk Container.

IMDG: International Maritime Dangerous Goods.

MAC: Maximum Allowed Concentration.

MARPOL: International Convention for the Prevention of Pollution from Ships.

PBT: Persistent, bioaccumulative, 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.

Not available.

### References

Not applicable.

### Information on evaluation method leading to the classification of mixture

### Revision information

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

### Training information

Follow training instructions when handling this material.

### Disclaimer

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. This document has been prepared using data from sources considered to be technically reliable and the information is believed to be correct. Materion makes no warranties, expressed or implied, as to the accuracy of the information contained herein. Materion cannot anticipate all conditions under which this information and its products may be used and the actual conditions of use are beyond its control. The user is responsible to evaluate all available information when using this product for any particular use and to comply with all Federal, State, Provincial and Local laws, statutes and regulations.