

# Prismatic Powders E-Series

Version number: 2.0

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## SECTION 1: Identification

### 1.1 Product identifier

Trade name **Prismatic Powders E-Series**

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

Relevant identified uses General use

### 1.3 Details of the supplier of the safety data sheet

NIC Industries, Inc  
7050 6th St.  
White City Oregon 97503  
United States

Telephone: 866-774-7628  
e-mail: sds@nicindustries.com  
Website: www.nicindustries.com

### 1.4 Emergency telephone number

Emergency information service 1-800-633-8253 (USA & Canada) or 001-1-801-629-0667 (International)

The information contained in this Safety Data Sheet (SDS) is, to the best of our knowledge, true and accurate and presented in good faith. NIC Industries, Inc. makes no warranties, expressed or implied, as to the accuracy and adequacy of this information. Because many factors may affect processing or application/use of this product, this data is offered solely for the user's consideration, investigation and verification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or process. Regulatory requirements are subject to change and may differ from one location to another. It is the responsibility of the buyer/user to ensure its activities comply with all local, state and federal regulations.

## SECTION 2: Hazard(s) identification

### 2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Section	Hazard class	Category	Hazard class and category	Hazard statement
A.2	Skin corrosion/irritation	2	Skin Irrit. 2	H315
A.3	Serious eye damage/eye irritation	1	Eye Dam. 1	H318
A.4S	Skin sensitization	1	Skin Sens. 1	H317
A.5	Germ cell mutagenicity	1B	Muta. 1B	H340
A.6	Carcinogenicity	1A	Carc. 1A	H350
A.7	Reproductive toxicity	1B	Repr. 1B	H360F
A.9	Specific target organ toxicity - repeated exposure	2	STOT RE 2	H373

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects  
Delayed or immediate effects can be expected after short or long-term exposure.

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## 2.2 Label elements

Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

- Signal word

**DANGER**

- Pictograms

GHS05, GHS07, GHS08



- Hazard statements

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H340	May cause genetic defects.
H350	May cause cancer.
H360F	May damage fertility.
H373	May cause damage to organs through prolonged or repeated exposure.

- Precautionary statements

P201	Obtain special instructions before use.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P272	Contaminated work clothing must not be allowed out of the workplace.
P280	Wear protective gloves.
P302+P352	If on skin: Wash with plenty of water.
P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a poison center/doctor.
P321	Specific treatment (see on this label).
P362	Take off contaminated clothing and wash it before reuse.
P363	Wash contaminated clothing before reuse.
P405	Store locked up.
P501	Dispose of contents/container to industrial combustion plant.

- Hazardous ingredients for labelling

reaction product: bisphenol-A(epichlorhydrin), epoxy resin (number average molecular weight  $\leq$  700), 1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione, bisphenol A, Carbon black, Poly(Bisphenol A-co-epichlorohydrin), glycidyl end-capped, nickel powder

## 2.3 Other hazards

Hazards not otherwise classified

- Contains epoxy constituents. May produce an allergic reaction.
- May be harmful if swallowed (GHS category 5: acutely toxic - oral).
- May be harmful if inhaled (GHS category 5: acutely toxic - inhalation).
- Very toxic to aquatic life with long lasting effects (GHS category 1: aquatic toxicity - acute and/or chronic).

Endocrine disrupting properties

- Contains an endocrine disruptor (EDC) in a concentration of  $\geq$  0,1%.

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Not relevant (mixture)

### 3.2 Mixtures

Description of the mixture

Name of substance	Identifier	Wt%
reaction product: bisphenol-A-(epichlorhydrin), epoxy resin (number average molecular weight $\leq$ 700)	CAS No 25068-38-6	50 - < 75
Titanium dioxide	CAS No 13463-67-7	10 - < 25
Poly(Bisphenol A-co-epichlorhydrin), glycidyl end-capped	CAS No 25036-25-3	10 - < 25
1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione	CAS No 2451-62-9	5 - < 10
bisphenol A	CAS No 80-05-7	5 - < 10
Carbon black	CAS No 1333-86-4	1 - < 5
2-methylimidazole	CAS No 693-98-1	1 - < 5
nickel powder	CAS No 7440-02-0	< 1
2-Propenoic acid, homopolymer	CAS No 9003-01-4	< 1
Quartz (SiO <sub>2</sub> )	CAS No 14808-60-7	< 1

\* Although TGIC is listed as a constituent for Prismatic Powders E-Series, TGIC is not present in every color in the series. To find out if a color contains TGIC please contact NIC Industries for verification.

\*\* Trade Secret: In accordance with OSHA Hazard Communication Standard 29 CFR 1910.1200(i) and in accordance with the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS), the specific identity and/or exact percentage (concentration) of the composition has been withheld as a "Trade Secret."

## SECTION 4: First-aid measures

### 4.1 Description of first-aid measures

#### General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

#### Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician. Provide fresh air.

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Following skin contact

Rinse skin with water/shower.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

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

Symptoms and effects are not known to date.

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

None.

## SECTION 5: Fire-fighting measures

### 5.1 Extinguishing media

Suitable extinguishing media

Water, Foam, ABC-powder

### 5.2 Special hazards arising from the substance or mixture

Deposited combustible dust has considerable explosion potential.

Hazardous combustion products

Nitrogen oxides (NO<sub>x</sub>), Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>)

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Coordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

### 6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains. Take up mechanically.

Advice on how to clean up a spill

Take up mechanically.

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Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

## 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Recommendations

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Take precautionary measures against static discharge. Use only in well-ventilated areas. Ground/bond container and receiving equipment.

- Specific notes/details

Dust deposits may accumulate on all deposition surfaces in a technical room. The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

### 7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

- Explosive atmospheres

Removal of dust deposits.

- Ventilation requirements

Use local and general ventilation.

### 7.3 Specific end use(s)

See section 16 for a general overview.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m <sup>3</sup> ]	STEL [ppm]	STEL [mg/m <sup>3</sup> ]	Ceiling-C [ppm]	Ceiling-C [mg/m <sup>3</sup> ]	Notation	Source
US	Particulates not otherwise classified		REL							appx-D	NIOSH REL
US	Particulates not otherwise classified (PNOC)		PEL	1,766	15					partml, i, dust	29 CFR 1910.1000

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**Occupational exposure limit values (Workplace Exposure Limits)**

Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m <sup>3</sup> ]	STEL [ppm]	STEL [mg/m <sup>3</sup> ]	Ceiling-C [ppm]	Ceiling-C [mg/m <sup>3</sup> ]	Notation	Source
US	Particulates not otherwise classified (PNOC)		PEL	529.5	5					partml, r, dust	29 CFR 1910.1000
US	Particulates not otherwise regulated		PEL (CA)		10					dust	Cal/OSHA PEL
US	Particulates not otherwise regulated		PEL (CA)		5					r	Cal/OSHA PEL
US	Carbon black	1333-86-4	PEL (CA)		3.5						Cal/OSHA PEL
US	Carbon black	1333-86-4	PEL		3.5						29 CFR 1910.1000
US	Carbon black	1333-86-4	REL		3.5 (10 h)					appx-A, appx-C	NIOSH REL
US	Carbon black	1333-86-4	TLV®		3					i	ACGIH® 2021
US	Carbon black in presence of polycyclic aromatic hydrocarbons (PAHs)	1333-86-4	REL		0.1 (10 h)					PAHs, appx-A, appx-C	NIOSH REL
US	Titanium dioxide	13463-67-7	TLV®		10						ACGIH® 2021
US	Titanium dioxide	13463-67-7	PEL		15					i, dust	29 CFR 1910.1000
US	Titanium dioxide	13463-67-7	REL							lowest, appx-A	NIOSH REL
US	Quartz	14808-60-7	PEL (CA)		0.05					r	Cal/OSHA PEL
US	Silica, crystalline - quartz	14808-60-7	PEL		0.05					r	29 CFR 1910.1000
US	Silica, crystalline - quartz	14808-60-7	REL		0.05 (10 h)					r, appx-A	NIOSH REL
US	1,3,5-triglycidyl-s-triazinetrione	2451-62-9	PEL (CA)		0.005						Cal/OSHA PEL
US	1,3,5-triglycidyl-s-triazinetrione	2451-62-9	TLV®		0.05						ACGIH® 2021

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Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m <sup>3</sup> ]	STEL [ppm]	STEL [mg/m <sup>3</sup> ]	Ceiling-C [ppm]	Ceiling-C [mg/m <sup>3</sup> ]	Notation	Source
US	Nickel	7440-02-0	PEL		1						29 CFR 1910.1000
US	Nickel	7440-02-0	REL		0.015 (10 h)					appx-A	NIOSH REL
US	Nickel	7440-02-0	TLV®		1.5					i	ACGIH® 2021
US	Nickel	7440-02-0	PEL (CA)		0.5					Ni	Cal/ OSHA PEL
US	Copper	7440-50-8	PEL		1					Cu, dm	29 CFR 1910.1000
US	Copper	7440-50-8	PEL		0.1					Cu, fume	29 CFR 1910.1000
US	Copper	7440-50-8	REL		1 (10 h)					dm, Cu	NIOSH REL
US	Copper	7440-50-8	TLV®		1					dm, Cu	ACGIH® 2021
US	Copper	7440-50-8	REL		0.1 (10 h)					fume	NIOSH REL
US	Copper	7440-50-8	PEL (CA)		0.1					fume, Cu	Cal/ OSHA PEL
US	Copper	7440-50-8	TLV®		0.2					fume, Cu	ACGIH® 2021

Notation

- appx-A NIOSH Potential Occupational Carcinogen (Appendix A)
- appx-C Appendix C - Supplementary Exposure Limits
- appx-D see Appendix D - Substances with No Established RELs
- Ceiling-C ceiling value is a limit value above which exposure should not occur
- Cu calculated as Cu (copper)
- dm as dusts and mists
- dust as dust
- fume as fume
- i inhalable fraction
- lowest exposure by all routes should be carefully controlled to levels as low as possible
- Ni calculated as Ni (nickel)
- PAHs as polycyclic aromatic hydrocarbons (PAHs)
- part/ml particles/ml
- r respirable fraction
- STEL short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
- TWA time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

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Biological limit values						
Country	Name of agent	Parameter	Notation	Identifier	Value	Source
US	Nickel	Nickel		BEI®	5 µg/l	ACGIH® 2021

## 8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

- Hand protection

Wear protective gloves.

- Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

Particulate filter device (EN 143).

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

Physical state	Solid (powder)
Color	Various
Odor	Characteristic

#### Other safety parameters

pH (value)	Not applicable
Melting point/freezing point	Not determined
Initial boiling point and boiling range	>240 °C
Flash point	Not applicable
Evaporation rate	Not determined



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Flammability (solid, gas)	This material is combustible, but will not ignite readily
Explosion limits of dust clouds	Not determined
Vapor pressure	<0.007 Pa at 20 °C
Density	Not determined
Vapor density	Not available
Relative density	Not available
Solubility(ies)	Not determined
Partition coefficient	
- n-octanol/water (log KOW)	Not available
Auto-ignition temperature	183 °C
Viscosity	Not relevant (solid matter)
Explosive properties	None
Oxidizing properties	None
<b>9.2 Other information</b>	There is no additional information

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

### 10.2 Chemical stability

See below "Conditions to avoid".

### 10.3 Possibility of hazardous reactions

No known hazardous reactions.

### 10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

#### Hints to prevent fire or explosion

The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

### 10.5 Incompatible materials

Oxidizers.

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## 10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Test data are not available for the complete mixture.

#### Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

#### Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

##### Acute toxicity

Shall not be classified as acutely toxic.

GHS of the United Nations, annex 4: May be harmful if swallowed or if inhaled.

Acute toxicity estimate (ATE) of components of the mixture

Name of substance	CAS No	Exposure route	ATE
1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione	2451-62-9	Oral	>400 mg/kg
1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione	2451-62-9	Inhalation: dust/mist	1.14 mg/l/4h
2-methylimidazole	693-98-1	Oral	1,500 mg/kg
2-Propenoic acid, homopolymer	9003-01-4	Inhalation: vapor	>5.1 mg/l/4h
2-Propenoic acid, homopolymer	9003-01-4	Inhalation: dust/mist	0.5 mg/l/4h

##### Skin corrosion/irritation

Causes skin irritation.

##### Serious eye damage/eye irritation

Causes serious eye damage.

##### Respiratory or skin sensitization

May cause an allergic skin reaction.

##### Germ cell mutagenicity

May cause genetic defects.

##### Carcinogenicity

May cause cancer.

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## IARC Monographs on the Evaluation of Carcinogenic Risks to Humans

Name of substance	CAS No	Classification	Number
Carbon black	1333-86-4	2B	
Titanium dioxide	13463-67-7	2B	
2-Propenoic acid, homopolymer	9003-01-4	3	
2-methylimidazole	693-98-1	2B	
Quartz (SiO <sub>2</sub> )	14808-60-7	1	
nickel powder	7440-02-0	2B	

**Legend**

- 1 Carcinogenic to humans
- 2B Possibly carcinogenic to humans
- 3 Not classifiable as to carcinogenicity in humans

## National Toxicology Program (United States): Report on Carcinogens

Name of substance	CAS No	Classification	Number
Carbon black	1333-86-4	Known to be human carcinogens	1st Report on Carcinogens
nickel powder	7440-02-0	Reasonably anticipated to be a human carcinogen	1st Report on Carcinogens

**Reproductive toxicity**

May damage fertility.

**Specific target organ toxicity - single exposure**

Shall not be classified as a specific target organ toxicant (single exposure).

**Specific target organ toxicity - repeated exposure**

May cause damage to organs through prolonged or repeated exposure.

**Aspiration hazard**

Shall not be classified as presenting an aspiration hazard.

## SECTION 12: Ecological information

### 12.1 Toxicity

Very toxic to aquatic life with long lasting effects.

#### Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione	2451-62-9	LC50	>77 mg/l	Fish	96 h

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**Aquatic toxicity (acute) of components of the mixture**

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione	2451-62-9	EC50	>100 mg/l	Aquatic invertebrates	24 h
Carbon black	1333-86-4	LC50	>1,000 mg/l	Fish	96 h
Carbon black	1333-86-4	EC50	>5,600 mg/l	Aquatic invertebrates	24 h
Carbon black	1333-86-4	ErC50	>10,000 mg/l	Algae	72 h
2-methylimidazole	693-98-1	LC50	190 mg/l	Fish	96 h
2-methylimidazole	693-98-1	EC50	200 mg/l	Aquatic invertebrates	48 h
2-methylimidazole	693-98-1	ErC50	256.3 mg/l	Algae	72 h
nickel powder	7440-02-0	LC50	15.3 mg/l	Fish	96 h
nickel powder	7440-02-0	EC50	406 µg/l	Aquatic invertebrates	24 h
nickel powder	7440-02-0	ErC50	237 µg/l	Algae	72 h
2-Propenoic acid, homo-polymer	9003-01-4	LC50	27 mg/l	Fish	96 h

**Aquatic toxicity (chronic) of components of the mixture**

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Carbon black	1333-86-4	EC50	>1,000 mg/l	Microorganisms	3 h
2-methylimidazole	693-98-1	EC50	459.9 mg/l	Microorganisms	7 h
nickel powder	7440-02-0	ErC50	8,363 µg/l	Fish	40 d
nickel powder	7440-02-0	LC50	≤144 µg/l	Aquatic invertebrates	21 d
nickel powder	7440-02-0	EC50	≤108 µg/l	Aquatic invertebrates	21 d
nickel powder	7440-02-0	EbC50	6.2 µg/l	Aquatic invertebrates	30 d

**12.2 Persistence and degradability**

Data are not available.

**12.3 Bioaccumulative potential**

Data are not available.

**12.4 Mobility in soil**

Data are not available.

**12.5 Results of PBT and vPvB assessment**

Data are not available.

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## 12.6 Endocrine disrupting properties

Contains an endocrine disruptor (EDC) in a concentration of  $\geq 0,1\%$ .

## 12.7 Other adverse effects

Data are not available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packages

Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

#### Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

## SECTION 14: Transport information

<b>14.1 UN number</b>	Not subject to transport regulations
<b>14.2 UN proper shipping name</b>	Not relevant
<b>14.3 Transport hazard class(es)</b>	Not assigned
<b>14.4 Packing group</b>	Not assigned
<b>14.5 Environmental hazards</b>	Not assigned
Environmentally hazardous substance (aquatic environment)	reaction product: bisphenol-A-(epichlorhydrin), epoxy resin (number average molecular weight $\leq 700$ )
<b>14.6 Special precautions for user</b>	
There is no additional information.	
<b>14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code</b>	
The cargo is not intended to be carried in bulk.	

### Information for each of the UN Model Regulations

#### **Transport of dangerous goods by road or rail (49 CFR US DOT) - Additional information**

Not subject to transport regulations.

Reportable quantity (RQ)

12,500 lbs (5,675 kg) (nickel powder) (zinc powder-zinc dust (pyrophoric))

#### **International Maritime Dangerous Goods Code (IMDG) - Additional information**

Not subject to IMDG.

#### **International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information**

Not subject to ICAO-IATA.

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## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations specific for the product in question

#### National regulations (United States)

##### Toxic Substance Control Act (TSCA)

All ingredients are listed

##### Superfund Amendment and Reauthorization Act (SARA TITLE III )

- The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

None of the ingredients are listed.

- Specific Toxic Chemical Listings (EPCRA Section 313)

Toxics Release Inventory: Specific Toxic Chemical Listings

Name of substance	CAS No	Remarks	Effective date
Bisphenol A	80-05-7		12/31/1986
Nickel powder	7440-02-0		12/31/1986

#### Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

- List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

Name of substance	CAS No	Remarks	Statutory code	Final RQ pounds (Kg)
Nickel powder	7440-02-0	[4]	2	100 (45,4)

Legend

2 "2" indicates that the source is section 307(a) of the Clean Water Act

[4] No reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers (0.004 inches).

#### Clean Air Act

None of the ingredients are listed.

#### Right to Know Hazardous Substance List

- Toxic or Hazardous Substance List (MA-TURA)

Name of substance	CAS No	DEP CODE	PBT / HHS / LHS	PBT / HHS Threshold	De Minimis Concentration Threshold
Bisphenol A	80-05-7				1.0 %
Quartz (SiO2)		1095			1.0 %
Nickel powder	7440-02-0				1.0 %
Nickel powder		1029			0.1 %

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**- Hazardous Substances List (MN-ERTK)**

Name of substance	CAS No	References	Remarks
Carbon black	1333-86-4	A, N, O, R, *	
Titanium dioxide	13463-67-7	A	
Quartz (SiO <sub>2</sub> )		A, *	
nickel powder		A, N, O, R, T, *	

**Legend**

- \* Substances which are regulated by OSHA as carcinogens; have been categorized by the ACGIH as either "human carcinogens" or "suspect of carcinogenic potential for man"; have been evaluated by the International Agency for Research on Cancer (IARC) and found to be carcinogens or potential carcinogens; or have been listed as a carcinogen or potential carcinogen in the Annual Report on Carcinogens published by the National Toxicology Program (NTP).
- A American Conference of Governmental Industrial Hygienists (ACGIH), "Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices for 1992-93", available from ACGIH
- N National Institute for Occupational Safety and Health (NIOSH), "Recommendations for Occupational Safety and Health Standards," August 1988, available from NIOSH, Publications Dissemination Office, Division of Standards Development and Technology Transfer
- O Occupational Safety and Health Administration (OSHA), Safety and Health Standards, Code of Federal Regulations, title 29, part 1910, subpart Z, "Toxic and Hazardous Substances, 1990." General information: Minnesota Department of Labor and Industry, Occupational Safety and Health Division
- R International Agency for Research on Cancer (IARC) Monographs on the Evaluation of the Carcinogenic Risks to Humans; Overall Evaluations of Carcinogenicity: An Updating of IARC Monographs Volumes 1 to 42, Supplement 7 (1987). Available from: WHO Publications Centre USA
- T National Toxicology Program (NTP) "Fifth Annual Report on Carcinogens," 1989 (NTP 89-239). Order information: (919) 541-3992

**- Hazardous Substance List (NJ-RTK)**

Name of substance	CAS No	Remarks	Classifications
Carbon black	1333-86-4		CA
Titanium dioxide	13463-67-7		
1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione	2451-62-9		
Bisphenol A	80-05-7		F2
Quartz (SiO <sub>2</sub> )	14808-60-7		CA
Nickel powder	7440-02-0		CA

**Legend**

- CA Carcinogenic
- F2 Flammable - Second Degree

**- Hazardous Substance List (Chapter 323) (PA-RTK)**

Name of substance	CAS No	Classification
Carbon black	1333-86-4	
Titanium dioxide	13463-67-7	
bisphenol A	80-05-7	E
nickel powder		E
nickel powder		E, S

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Legend

E Environmental hazard  
S Special hazardous substance

- Hazardous Substance List (RI-RTK)

Name of substance	CAS No	References
Carbon black	1333-86-4	T
Titanium dioxide	13463-67-7	T
Quartz (SiO <sub>2</sub> )	14808-60-7	T
Nickel powder	7440-02-0	T, C

Legend

C Carcinogenicity (IARC)  
T Toxicity (ACGIH®)

**California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987**

Proposition 65 List of chemicals			
Name acc. to inventory	CAS No	Remarks	Type of the toxicity
Carbon black	1333-86-4	Airborne, unbound particles of respirable size	Cancer
Titanium dioxide	13463-67-7	Airborne, unbound particles of respirable size	Cancer
Bisphenol A (BPA)	80-05-7		Female
Bisphenol A (BPA)	80-05-7		Developmental
2-Methylimidazole	693-98-1		Cancer
Nickel	7440-02-0	Metallic	Cancer
Nickel	7440-02-0	Nickel refinery dust from the pyrometallurgical process	Cancer

**Industry or sector specific available guidance(s)**

**NFPA® 704**

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).

Category	Degree of hazard	Description
Flammability	2	Material that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur
Health	3	Material that, under emergency conditions, can cause serious or permanent injury
Instability	0	Material that is normally stable, even under fire conditions



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Category	Degree of hazard	Description
Special hazard		

## National inventories

Country	Inventory	Status
AU	AICS	All ingredients are listed
CA	DSL	All ingredients are listed
CN	IECSC	All ingredients are listed
EU	ECSI	Not all ingredients are listed
EU	REACH Reg.	Not all ingredients are listed
JP	CSCL-ENCS	Not all ingredients are listed
JP	ISHA-ENCS	Not all ingredients are listed
KR	KECI	All ingredients are listed
MX	INSQ	Not all ingredients are listed
NZ	NZIoC	All ingredients are listed
PH	PICCS	All ingredients are listed
TR	CICR	Not all ingredients are listed
TW	TCSI	All ingredients are listed
US	TSCA	All ingredients are listed

### Legend

AICS	Australian Inventory of Chemical Substances
CICR	Chemical Inventory and Control Regulation
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
ISHA-ENCS	Inventory of Existing and New Chemical Substances (ISHA-ENCS)
KECI	Korea Existing Chemicals Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

## 15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

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## SECTION 16: Other information, including date of preparation or last revision

### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
29 CFR 1910.1000	29 CFR 1910.1000, Tables Z-1, Z-2, Z-3 - Occupational Safety and Health Standards: Toxic and Hazardous Substances (permissible exposure limits)
49 CFR US DOT	49 CFR U.S. Department of Transportation
ACGIH®	American Conference of Governmental Industrial Hygienists
ACGIH® 2021	From ACGIH®, 2021 TLVs® and BEIs® Book. Copyright 2021. Reprinted with permission. Information on the proper use of the TLVs® and BEIs®: <a href="http://www.acgih.org/tlv-bei-guidelines/policies-procedures-presentations/tlv-bei-position-statement">http://www.acgih.org/tlv-bei-guidelines/policies-procedures-presentations/tlv-bei-position-statement</a>
ATE	Acute Toxicity Estimate
Cal/OSHA PEL	California Division of Occupational Safety and Health (Cal/OSHA): Permissible Exposure Limits (PELs)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
DEP CODE	Department of Environmental Protection Code
DGR	Dangerous Goods Regulations (see IATA/DGR)
EbC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
HHS	Higher hazard substance
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LHS	Lower hazard substance
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NIOSH REL	National Institute for Occupational Safety and Health (NIOSH): Recommended Exposure Limits (RELs)

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Abbr.	Descriptions of used abbreviations
NLP	No-Longer Polymer
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic
PEL	Permissible exposure limit
ppm	Parts per million
RTECS	Registry of Toxic Effects of Chemical Substances (database of NIOSH with toxicological information)
STEL	Short-term exposure limit
TLV®	Threshold Limit Values
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative

## Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

Transport of dangerous goods by road or rail (49 CFR US DOT). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

## Classification procedure

Physical and chemical properties: The classification is based on tested mixture.

Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

## List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H340	May cause genetic defects.
H350	May cause cancer.
H360F	May damage fertility.
H373	May cause damage to organs through prolonged or repeated exposure.