

## Safety Data Sheet

acc. to OSHA HCS

Date of issue: 10/02/2025

Reviewed on 10/01/2025

### 1 Identification

- **Product identifier**
- **Trade name:** KORUNDAL BOND
- **Other means of identification**
- **Article number:** 2264
- **Restrictions** Restricted to industrial or professional use.
- **Application of the substance / the mixture** Refractory Material
- **Uses advised against**  
 Avoid dry cutting, blasting, or dust generation. Users should be informed of the potential presence of respirable dust and respirable crystalline silica as well as their potential hazards. Appropriate training in the proper use and handling of this material should be provided as required under applicable regulations.
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
 HarbisonWalker International  
 2000 Park Lane Drive, Suite 400  
 Pittsburgh  
 Pennsylvania  
 15275  
 USA
- **Information department:**  
 SDS@thinkHWI.com  
 +33 (0)2 59 60 31 14
- **Emergency telephone number:**  
 CHEMTREC EMERGENCY  
 1-800-424-9300  
 US/CAN ONLY

### 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

Carcinogenicity 1A

H350 May cause cancer. Route of exposure: Inhalation.

Specific target organ toxicity (repeated exposure) 1H372 Causes damage to the lung through prolonged or repeated exposure. Route of exposure: Inhalation.



GHS05 Corrosion

Eye damage 1

H318 Causes serious eye damage.



GHS07

Acute toxicity - oral 4

H302 Harmful if swallowed.

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· **Additional information:**

Users should be informed of the potential presence of respirable dust and respirable crystalline silica as well as their potential hazards. Overexposure to the respirable dust of crystalline silica (quartz or cristobalite, less than or equal to 5 microns in size) may lead to silicosis in humans, which is a progressive and irreversible lung disease. Appropriate training in the proper use and handling of this material should be provided as required under applicable regulations.

· **Label elements**

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS05 GHS07 GHS08

· **Signal word** *Danger*

· **Hazard-determining components of labeling:**

Silicic acid, sodium salt

Quartz (SiO<sub>2</sub>)

Titanium Dioxide

· **Hazard statements**

H302 Harmful if swallowed.

H318 Causes serious eye damage.

H350 May cause cancer. Route of exposure: Inhalation.

H372 Causes damage to the lung through prolonged or repeated exposure. Route of exposure: Inhalation.

· **Precautionary statements**

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.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.

P330 Rinse mouth.

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.

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

P314 Get medical advice/attention if you feel unwell.

P405 Store locked up.

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

· **Additional information:**

Users should be informed of the potential presence of respirable dust and respirable crystalline silica as well as their potential hazards. Overexposure to the respirable dust of crystalline silica (quartz or cristobalite, less than or equal to 5 microns in size) may lead to silicosis in humans, which is a progressive and irreversible lung disease. Appropriate training in the proper use and handling of this material should be provided as required under applicable regulations.

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- **Information pertaining to particular dangers for man and environment:**
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**

HEALTH	3	Health = *3
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Classification according to (d)(1)(ii) of § 1910.1200**  
The SDS issuer does not object to the classifications provided by importers or manufacturers of precursor products.
- **Hazards not otherwise classified**  
There are no adverse physical or health effects known that are not covered by the hazard classes of the Hazard Communications Standard.

### 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

1344-28-1	aluminium oxide	60–80%
1332-58-7	Kaolin	≥7–≤30%
1344-09-8	Silicic acid, sodium salt	≥5–<10%
14808-60-7	Quartz (SiO <sub>2</sub> )	≥0.5–≤5%
	Pregelatinized Corn Flour	0.1–1%
13463-67-7	Titanium Dioxide	0.1–1%

- **Additional information:**  
The exact chemical identity and/or percentage (concentration) of the composition has been withheld as a trade secret.

### 4 First-aid measures

- **Description of first aid measures**
- **General information:**  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**  
In case of skin contact, wash with soap and water. Get medical attention if irritation persists.

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- **After eye contact:**  
Rinse opened eye for several minutes under running water. Then consult a doctor.  
Chemical burns must be treated by a physician.
- **After swallowing:** Immediately call a doctor.
- **Most important symptoms and effects, both acute and delayed**  
Breathing crystalline silica can cause lung disease, including silicosis and lung cancer.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture**  
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Mount respiratory protective device.  
Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. For personal protection, see section 8 of the SDS.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Use neutralizing agent.  
Dispose contaminated material as waste according to section 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### 7 Handling and storage

- **Precautions for safe handling**  
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.  
Thorough dedusting.  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.  
This product contains quartz, cristobalite, and/or tridymite which may become airborne without a visible cloud. Avoid breathing dust. Avoid creating dusty conditions.
- **Information about protection against explosions and fires:**  
Keep respiratory protective device available.

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- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
 The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.  
 At this time, the remaining constituent has no known exposure limits.

### 1344-28-1 aluminium oxide

PEL	Long-term value: 15* 5** mg/m <sup>3</sup> *Total dust; ** Respirable fraction
REL	Long-term value: 10* 5** mg/m <sup>3</sup> as Al*Total dust**Respirable/pyro powd./welding f.
TLV	Long-term value: 1* mg/m <sup>3</sup> as Al; *as respirable fraction, A4

### 1332-58-7 Kaolin

PEL	Long-term value: 15* 5** mg/m <sup>3</sup> *total dust **respirable fraction
REL	Long-term value: 10* 5** mg/m <sup>3</sup> *total dust **respirable fraction

### 14808-60-7 Quartz (SiO<sub>2</sub>)

PEL	Long-term value: 0.05* mg/m <sup>3</sup> *resp. dust; 30mg/m <sup>3</sup> /%SiO <sub>2</sub> +2
REL	Long-term value: 0.05* mg/m <sup>3</sup> *respirable dust; See Pocket Guide App. A
TLV	Long-term value: 0.025* mg/m <sup>3</sup> *respirable particulate matter, A2

### Pregelatinized Corn Flour

PEL	Ceiling limit value: 5* 15** mg/m <sup>3</sup> *Respirable Fraction **Total Dust
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### 13463-67-7 Titanium Dioxide

PEL	Long-term value: 15* mg/m <sup>3</sup> *total dust
REL	See Pocket Guide App. A
TLV	Long-term value: 0.2* 2.5** mg/m <sup>3</sup> resp. fraction, *nanoscale, **finescale, A3

- **Regulatory information**
- PEL: Guide to Occupational Exposure Values (OSHA PELs)
- REL: Guide to Occupational Exposure Values (NIOSH RELs)
- TLV: Guide to Occupational Exposure Values (TLV)

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· **Additional information:**

*The lists that were valid during the creation were used as basis.*

*Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.*

· **Exposure controls**

· **Appropriate engineering controls** No further data; see section 7.

· **Personal protective equipment:**

· **General protective and hygienic measures:**

*Keep away from foodstuffs, beverages and feed.*

*Immediately remove all soiled and contaminated clothing.*

*Wash hands before breaks and at the end of work.*

*Store protective clothing separately.*

*Avoid contact with the eyes and skin.*

· **Breathing equipment:**



*In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.*

· **Protection of hands:**

*Protective gloves*



*The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.*

*Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation*

· **Material of gloves**

*The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.*

· **Penetration time of glove material**

*The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.*

· **Eye protection:**



*Wear safety glasses with side shields (or goggles).*

· **Body protection:**



*Standard industrial clothing is sufficient for room temperature installations (ISO 6942). Do not shake out work clothes. Do not remove dust with compressed air.*

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### 9 Physical and chemical properties

#### · Information on basic physical and chemical properties

##### · General Information

· Physical state	Solid
· Color:	Grey
· Odor:	uncharacteristic
· Odor threshold:	Not determined.
· Melting point/Melting range:	Undetermined.
· Boiling point/Boiling range:	Undetermined.
· Flammability:	Not determined.
· Explosion limits:	
· Lower:	Not determined.
· Upper:	Not determined.
· Flash point:	Not applicable.
· Decomposition temperature:	Not determined.
· pH-value:	Not applicable.
· Viscosity:	
· Kinematic:	Not applicable.
· Dynamic:	Not applicable.
· Solubility in / Miscibility with	
· Water:	Insoluble.
· Partition coefficient (n-octanol/water):	Not determined.
· Vapor pressure:	Not applicable.
· Vapor pressure:	
· Density at 20 °C (68 °F):	> 3 . 5 3 7 9 5 – ~ 3 . 5 6 5 0 5      g / c m <sup>3</sup> (>29.52419~29.75034 lbs/gal)
· Relative density	Not determined.
· Bulk density:	>3,537~3,564 kg/m <sup>3</sup>
· Vapor density	Not applicable.
· Particle characteristics	Not determined.

#### · Other information

##### · Appearance:

· Form: Pasty

#### · Important information on protection of health and environment, and on safety.

· Ignition temperature:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Solvent content:	
· VOC content:	0.00 %
· Solids content:	100.0 %
· Change in condition	
· Evaporation rate	Not applicable.

### 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.

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- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:**  
Incompatibility is based strictly upon potential theoretical reactions between chemicals and may not be specific to industrial application exposure.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

### · Information on toxicological effects

#### · Acute toxicity:

#### · LD/LC50 values that are relevant for classification:

##### ATE (Acute Toxicity Estimate)

Oral	LD50	<1,329 mg/kg
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##### 1344-09-8 Silicic acid, sodium salt

Oral	LD50	100 mg/kg (ATE)
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#### · Primary irritant effect:

- **on the skin:** Prolonged skin contact may cause temporary irritation.

- **on the eye:** Causes serious eye damage.

- **Sensitization:** No sensitizing effects known.

- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.

- **Reproductive toxicity** Based on available data, the classification criteria are not met.

#### · Specific target organ toxicity - single exposure

Based on available data, the classification criteria are not met.

#### · Specific target organ toxicity - repeated exposure

Causes damage to lungs through prolonged or repeated exposure.

- **Aspiration hazard** Not applicable

#### · Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful

Irritant

- **Interactive effects** No interactive effects between components are known.

#### · Carcinogenic categories

#### · IARC (International Agency for Research on Cancer)

14808-60-7	Quartz (SiO <sub>2</sub> )	1
13463-67-7	Titanium Dioxide	2B

#### · Additional information

In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However, in making the overall evaluation, IARC noted that "carcinogenicity was not detected in all industrial circumstances studied. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs." (IARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France.) In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) concluded that the main effect in humans of the inhalation of respirable crystalline silica dust is silicosis. "There is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis (and, apparently, not in employees without silicosis exposed to silica dust in quarries and in the ceramic industry). Therefore,

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preventing the onset of silicosis will also reduce the cancer risk.." (SCOEL SUM Doc 94-final, June 2003) According to the current state of the art, worker protection against silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits. May cause cancer. Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled.

**· NTP (National Toxicology Program)**

 14808-60-7 Quartz (SiO<sub>2</sub>)

K

**· OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

**· Alternative sources for toxicological information**

No non-standard sources for toxicological information where used.

## 12 Ecological information

**· Toxicity**
**· Aquatic toxicity:** No further relevant information available.

**· Persistence and degradability** No further relevant information available.

**· Bioaccumulative potential** No further relevant information available.

**· Mobility in soil** No further relevant information available.

**· Results of PBT and vPvB assessment**
**· PBT:** Not applicable.

**· vPvB:** Not applicable.

**· Other adverse effects**
**· Additional ecological information:**
**· General notes:**

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

## 13 Disposal considerations

**· Waste treatment methods**
**· Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Since this product is used in several industries, no Waste Code can be provided by the supplier. The Waste Code should be determined in arrangement with your waste disposal partner or the responsible authority.

**· Uncleaned packagings:**
**· Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

**· UN-Number**
**· DOT, IMDG, IATA**

not regulated

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- |  |                 |
|--|-----------------|
| · <b>UN proper shipping name</b>   |                 |
| · <b>DOT, IMDG, IATA</b>   | not regulated   |
| · <b>Transport hazard class(es)</b>  |                 |
| · <b>DOT, ADN, IMDG, IATA</b>  |                 |
| · <b>Class</b>   | not regulated   |
| · <b>Packing group</b>   |                 |
| · <b>DOT, IMDG, IATA</b>   | not regulated   |
| · <b>Environmental hazards:</b>  | Not applicable. |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable. |
| · <b>Special precautions for user</b>  | Not applicable. |
| · <b>UN "Model Regulation":</b>  | not regulated   |

### 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

· <b>Section 355 (extremely hazardous substances):</b>
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None of the ingredients is listed.
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· <b>Section 313 (Specific toxic chemical listings):</b>
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1344-28-1 aluminium oxide
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· <b>TSCA (Toxic Substances Control Act):</b>
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1344-28-1	aluminium oxide	ACTIVE
1332-58-7	Kaolin	ACTIVE
1344-09-8	Silicic acid, sodium salt	ACTIVE
14808-60-7	Quartz (SiO <sub>2</sub> )	ACTIVE
13463-67-7	Titanium Dioxide	ACTIVE

· <b>Hazardous Air Pollutants</b>
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None of the ingredients is listed.
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· <b>Proposition 65</b>
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· <b>Chemicals known to cause cancer:</b>
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14808-60-7	Quartz (SiO <sub>2</sub> )
13463-67-7	Titanium Dioxide

· <b>Chemicals known to cause reproductive toxicity for females:</b>
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None of the ingredients is listed.
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· <b>Chemicals known to cause reproductive toxicity for males:</b>
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None of the ingredients is listed.
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· <b>Chemicals known to cause developmental toxicity:</b>
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None of the ingredients is listed.
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· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value)**

1344-28-1	aluminium oxide	A4
1332-58-7	Kaolin	A4
14808-60-7	Quartz (SiO <sub>2</sub> )	A2
13463-67-7	Titanium Dioxide	A4

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

14808-60-7	Quartz (SiO <sub>2</sub> )
13463-67-7	Titanium Dioxide

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS05 GHS07 GHS08

· **Signal word Danger**

· **Hazard-determining components of labeling:**

Silicic acid, sodium salt

Quartz (SiO<sub>2</sub>)

Titanium Dioxide

· **Hazard statements**

H302 Harmful if swallowed.

H318 Causes serious eye damage.

H350 May cause cancer. Route of exposure: Inhalation.

H372 Causes damage to the lung through prolonged or repeated exposure. Route of exposure: Inhalation.

· **Precautionary statements**

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.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.

P330 Rinse mouth.

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.

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

P314 Get medical advice/attention if you feel unwell.

P405 Store locked up.

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

· **National regulations:**

· **Information about limitation of use:**

*Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.*

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other information

*This information is based on our present knowledge on creation date. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

· **Contact:** SDS@thinkHWI.com

· **Version number of previous version:** 1

· **Date of preparation** 10/02/2025

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute toxicity - oral 4: Acute toxicity – Category 4

Eye damage 1: Serious eye damage/eye irritation – Category 1

Carcinogenicity 1A: Carcinogenicity – Category 1A

Specific target organ toxicity (repeated exposure) 1: Specific target organ toxicity (repeated exposure) – Category 1