

acc. to 29 CFR 1910.1200 App D

# **Cerakote HIR-Series (Part A)**

Version number: 2.0 Revision: 12/29/2022

## **SECTION 1: Identification**

#### 1.1 Product identifier

Trade name

Cerakote HIR-Series (Part A)

### 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)

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## **SECTION 2: Hazard(s) identification**

#### 2.1 Classification of the substance or mixture

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

Hazard class and category code(s)

Classification acc. to GHS

Section	Hazard class	Category	Hazard class and cat- egory	Hazard state- ment
A.4S	Skin sensitization	1	Skin Sens. 1	H317

For full text of abbreviations: see SECTION 16.

#### 2.2 Label elements

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

- Signal word

**WARNING** 

- Pictograms

GHS07





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- Hazard statements

H317 May cause an allergic skin reaction.

- Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapors/spray.

P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

P302+P352 If on skin: Wash with plenty of water. P321 Specific treatment (see on this label).

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P363 Wash contaminated clothing before reuse.

P501 Dispose of contents/container to industrial combustion plant.

- Hazardous ingredients for labelling p-chlorobenzotrifluoride

#### 2.3 Other hazards

Hazards not otherwise classified

May be harmful in contact with skin (GHS category 5: acutely toxic - dermal).

## **SECTION 3: Composition/information on ingredients**

#### 3.1 Substances

Not relevant (mixture)

#### 3.2 Mixtures

Description of the mixture

Name of substance	Identifier	Wt%
p-Chlorobenzotrifluoride	CAS No 98-56-6	50 – < 75
Performance Ceramic #1	CAS No Trade Secret	5 – < 10
2-Butanol	CAS No 78-92-2	1-<5

<sup>\*\*</sup> 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. Provide fresh air.



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#### Following skin contact

Wash with plenty of soap and water.

### 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

Dry extinguishing powder, BC-powder, Carbon dioxide (CO2)

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

Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO2)

#### 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.

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder.



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Appropriate containment techniques

Use of adsorbent materials.

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. Use only in well-ventilated areas.

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

#### 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 substance	ldentifi- er	TWA [ppm]	TWA [mg/ m³]	STEL [ppm]	STEL [mg/ m³]	Ceiling-C [ppm]	Ceiling-C [mg/m³]	Nota- tion	Source
US	Pigment	TLV®		5					r	ACGIH® 2022
US	Pigment	PEL (CA)		5					fume	Cal/OSHA PEL
US	Pigment	PEL		10					fume	29 CFR 1910.100 0
US	Pigment	REL		5 (10 h)					df, Fe	NIOSH REL
US	Pigment	REL							appx-D	NIOSH REL
US	Pigment	PEL		15					i, dust	29 CFR 1910.100 0



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Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of substance	ldentifi- er	TWA [ppm]	TWA [mg/ m³]	STEL [ppm]	STEL [mg/ m³]	Ceiling-C [ppm]	Ceiling-C [mg/m³]	Nota- tion	Source
US	Pigment	PEL		5					r, dust	29 CFR 1910.100 0
US	Performance Ceramic #1	PEL		15					i, dust	29 CFR 1910.100 0
US	Performance Ceramic #1	REL							lowest, appx-A	NIOSH REL
US	Performance Ceramic #1	TLV®		2.5					r	ACGIH® 2022
US	Performance Ceramic #1	TLV®		0.2					r	ACGIH® 2022
US	2-butanol	TLV®	100							ACGIH® 2022
US	2-butanol	PEL (CA)	100	305						Cal/OSHA PEL
US	2-butanol	REL	100 (10 h)	305 (10 h)	150	455				NIOSH REL
US	2-butanol	PEL	150	450						29 CFR 1910.100 0

Notation

аррх-А NIOSH Potential Occupational Carcinogen (Appendix A) appx-D

see Appendix D - Substances with No Established RELs ceiling value is a limit value above which exposure should not occur Ceiling-C

as dust and fumes df

dust as dust

calculated as Fe (iron)

fume as fume

inhalable fraction

lowest exposure by all routes should be carefully controlled to levels as low as possible

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 (un-

less 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

#### 8.2 **Exposure controls**

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.



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### Skin protection

## - Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/ impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these 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

In case of inadequate ventilation wear respiratory protection.

#### 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	Liquid
Color	Various
Particle	Not relevant (liquid)
Particle size	Not available
Odor	Ammoniacal

## Other safety parameters

pH (value)	Not determined
Melting point/freezing point	Not determined
Initial boiling point and boiling range	>133.8 °C
Flash point	39 °C
Evaporation rate	Not determined
Flammability (solid, gas)	Not relevant (fluid)
Explosive limits	Not determined
Vapor pressure	0.018 Pa at 25 °C
Density	Not determined



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Vapor density	Not available
Relative density	Not available
Solubility(ies)	Not determined
Partition coefficient	
- n-octanol/water (log KOW)	Not available
Auto-ignition temperature	600 °C
Decomposition temperature	Not relevant
Viscosity	Not determined
- Kinematic viscosity	Not determined
Explosive properties	None
Oxidizing properties	None
	Hazard classes acc. to GHS (Physical hazards): Not relevant
Other information	

#### 9.2

ximum permissible surface temperature on the equipment:
)

## **SECTION 10: Stability and reactivity**

#### Reactivity

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

#### 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.

#### 10.5 **Incompatible materials**

Oxidizers.

#### 10.6 **Hazardous decomposition products**

Carbon dioxide, carbon monoxide, and silicon oxides may be produced from all coating formulations. Hazardous combustion products: see section 5.



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## **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 in contact with skin.

#### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

#### Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

## Respiratory or skin sensitization

May cause an allergic skin reaction.

#### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

#### Carcinogenicity

Shall not be classified as carcinogenic.

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

Name of substance	Classification	Number
Performance Ceramic #1	2B	
p-chlorobenzotrifluoride	2B	

#### Legend

2B

Possibly carcinogenic to humans

#### Reproductive toxicity

Shall not be classified as a reproductive toxicant.

## Specific target organ toxicity - single exposure

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

### Specific target organ toxicity - repeated exposure

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

#### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.



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## **SECTION 12: Ecological information**

#### 12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

### 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.

## 12.6 Endocrine disrupting properties

None of the ingredients are listed.

### 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**

<ul> <li>14.2 UN proper shipping name not relevant</li> <li>14.3 Transport hazard class(es) not assigned</li> <li>14.4 Packing group not assigned</li> <li>14.5 Environmental hazards not assigned</li> </ul>	14.1	UN number	not subject to transport regulations
14.4 Packing group not assigned	14.2	UN proper shipping name	not relevant
	14.3	Transport hazard class(es)	not assigned
<b>14.5</b> Environmental hazards not assigned	14.4	Packing group	not assigned
	14.5	Environmental hazards	not assigned



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### Environmentally hazardous substance (aquatic environment)

p-Chlorobenzotrifluoride (PCBTF) will preferentially partition to the atmosphere, due to its high volatility. It has been estimated that 99.93% of a 100 Kg spill would end up in the atmosphere, while only 0.06% would partition to water (M. Garlanda, 1990). The aqueous solubility of PCBTF (29.1 mg/L) would also tend to limit its potential impact to exposed aquatic systems. PCBTF has exhibited significant toxicity to aquatic species under laboratory conditions, but is unlikely to exhibit a similar degree of acute toxicity under environmental conditions due to the aforementioned solubility and volatility issues. The moderate level of bioaccumulation measured in laboratory tests will also be subject to environmental mitigation due to PCBTF's physical/chemical properties. PCBTF should rapidly volatilize from dry and moist soils. Volatility, and relative environmental partitioning characteristics, make it unlikely that PCBTF represents a significant threat to aquatic or terrestrial environments.

## 14.6 Special precautions for user

Cerakote HIR-Series Part A products do not need to be regulated for purposes of transportation due to the fact that the p-chlorobenzotrifluoride (CAS# 98-56-6) contained in the mixture does not sustain combustion. Per 49 CFR § 173.120(a)(3) of the hazardous materials regulations, liquids with a flash point greater than 35°C that do not sustain combustion according to ASTM D 4206 do not meet the definition of a Class 3 Flammable Liquid. Additionally, International Air Transport Association (IATA) Dangerous Goods Regulations section 3.3.1.3(a) states that liquids which do not sustain combustion "need not be considered as flammable" if the liquid has "passed a suitable test for combustibility" as prescribed by the UN Manual of Tests and Criteria, Part III, subsection 32.5.2. ASTM D 4206 standards are identical to the UN Manual standards; it is thus considered to be a suitable test for combustibility. For the aforementioned reasons, Cerakote HIR-Series Part A is not considered regulated for purposes of transportation.

## 14.7 Transport in bulk according to IMO instruments

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.

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.

### **SECTION 15: Regulatory information**

# 15.1 Safety, health and environmental regulations specific for the product in question National regulations (United States)

#### 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
2-Butanol	78-92-2		12/31/1986



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

- List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4) None of the ingredients are listed.

#### **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 Concen- tration Threshold
2-Butanol	78-92-2		LHS		1.0 %

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

Name of substance	References	Remarks
Performance Ceramic #1	А	
2-Butanol	A, O	

#### Legend

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
Occupational Safety and Health Administration (OSHA), Safety and Health Standards, Code of Federal Regulations, title 29, part

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

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

Name of substance	Remarks	Classifications
Performance Ceramic #1		
2-Butanol		F3

#### Legend

F3 Flammable - Third Degree

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

Name of substance	Classification
Performance Ceramic #1	
2-Butanol	E

#### Legend

Environmental hazard



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### - Hazardous Substance List (RI-RTK)

Name of substance	References
Performance Ceramic #1	Т
2-Butanol	T, F

Legend

F Flammability (NFPA®)
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 of substance	Remarks	Type of the toxicity
Performance Ceramic #1	airborne, unbound particles of respirable size	Cancer
p-Chlorobenzotrifluoride		Cancer

#### **VOC** content

All Cerakote coatings are VOC compliant under the EPA and have low to no VOC content. To find out the VOC content of an individual coating please contact sds@nicindustries.com for more information.

## 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 haz- ard	Description
Flammability	2	Material that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur
Health	2	Material that, under emergency conditions, can cause temporary incapacitation or residual injury
Instability	0	Material that is normally stable, even under fire conditions
Special hazard		

#### **National inventories**

Country	Inventory	Status
AU	AIIC	Not all ingredients are listed
CA	DSL	Not all ingredients are listed
CN	IECSC	Not all ingredients are listed
EU	ECSI	Not all ingredients are listed



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Country	Inventory	Status
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	Not all ingredients are listed
MX	INSQ	Not all ingredients are listed
NZ	NZIoC	Not all ingredients are listed
PH	PICCS	Not all ingredients are listed
TR	CICR	Not all ingredients are listed
TW	TCSI	Not all ingredients are listed
US	TSCA	Not all ingredients are listed

Legend

AIIC Australian Inventory of Industrial Chemicals CICR

Chemical Inventory and Control Regulation List of Existing and New Chemical Substances (CSCL-ENCS) CSCL-ENCS

DSL

**ECSI** 

Domestic Substances List (DSL)
EC Substance Inventory (EINECS, ELINCS, NLP)
Inventory of Existing Chemical Substances Produced or Imported in China
National Inventory of Chemical Substances
Inventory of Existing and New Chemical Substances (ISHA-ENCS)
Korea Existing Chemicals Inventory
New Zealand Inventory of Chemicals
Philippine Inventory of Chemicals
Philippine Inventory of Chemicals **IECSC** 

INSQ

ISHA-ENCS KECI

NZIoC

Philippine Inventory of Chemicals and Chemical Substances (PICCS) 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.

## 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® 2022	From ACGIH®, 2022 TLVs® and BEIs® Book. Copyright 2022. Reprinted with permission. Information on the proper use of the TLVs® and BEIs®: http://www.acgih.org/tlv-bei-guidelines/policies-procedures-presentations/tlv-bei-position-statement
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



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Abbr.	Descriptions of used abbreviations
DEP CODE	Department of Environmental Protection Code
DGR	Dangerous Goods Regulations (see IATA/DGR)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
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
LHS	Lower hazard substance
NFPA®	National Fire Protection Association (United States)
NIOSH REL	National Institute for Occupational Safety and Health (NIOSH): Recommended Exposure Limits (RELs)
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
VOC	Volatile Organic Compounds
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).



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

Code	Text
H317	May cause an allergic skin reaction.