

Safety Data Sheet

according to 29 CFR 1910.1200(g)

ACS3000 Extreme Rim Coating

Revision date: 19.12.2019

Product code: TT-001-USA

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1. Identification

Product identifier

ACS3000 Extreme Rim Coating

Recommended use of the chemical and restrictions on use

Use of the substance/mixture

coating

Uses advised against

Only use for the intended purpose.

Details of the supplier of the safety data sheet

Company name:	ACS Advanced Coating Solutions (US) Inc.	
Street:	17 Battery Place, Suite 1307	
Place:	USA-1004 New York, NY	
Contact person:	Dr. Marcus Ernst	Telephone: 001-212-488-1710
e-mail:	Service.inc@acs.ag	

Emergency phone number:

Emergency Action: In the event of a medical enquiry involving this product, please contact your doctor or local hospital accident and emergency department or the NHS enquiry service.

2. Hazard(s) identification

Classification of the chemical

29 CFR Part 1910.1200

Flammable liquids: Flam. Liq. 2
Acute toxicity: Acute Tox. 4 (oral)
Skin corrosion/irritation: Skin Corr. 1B
Serious eye damage/eye irritation: Eye Dam. 1
Respiratory or skin sensitization: Skin Sens. 1
Reproductive toxicity: Repr. 2
Specific target organ toxicity single exposure: STOT SE 3 (narcotic effects)

Label elements

29 CFR Part 1910.1200

Signal word: Danger

Pictograms:



Hazard statements

Highly flammable liquid and vapor
Harmful if swallowed
Causes severe skin burns and eye damage
May cause an allergic skin reaction
May cause drowsiness or dizziness
Suspected of damaging fertility or the unborn child

Precautionary statements

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.

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Use explosion-proof electrical/ventilating/lighting equipment.
 Use only non-sparking tools.
 Take precautionary measures against static discharge.
 Do not breathe dust/fume/gas/mist/vapors/spray.
 Do not eat, drink or smoke when using this product.
 Use only outdoors or in a well-ventilated area.
 Contaminated work clothing must not be allowed out of the workplace.
 Wear protective gloves/protective clothing/eye protection/face protection.
 If swallowed: Rinse mouth. Do NOT induce vomiting.
 Call a poison center/doctor if you feel unwell.
 If on skin: Wash with plenty of soap and water.
 Wash contaminated clothing before reuse.
 If inhaled: Remove person to fresh air and keep comfortable for breathing.
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
 Continue rinsing.
 Immediately call a poison center/doctor.
 If exposed or concerned: Get medical advice/attention.
 In case of fire:
 Use Carbon dioxide (CO₂), Dry extinguishing powder, alcohol resistant foam to extinguish.
 Keep container tightly closed.
 Store locked up.
 Dispose of contents/container to local/regional/national/international regulations.

Hazards not otherwise classified

Environmental hazards:

H412 ("Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.")

In use, may form flammable/explosive vapour-air mixture.

The components in this mixture do not meet the criteria for classification as PBT or vPvB.

3. Composition/information on ingredients**Mixtures****Hazardous components**

CAS No	Components	Quantity
123-86-4	n-butyl acetate	50 - 70 %
475645-84-2	Cyclosilazanes, di-Me, Me hydrogen, polymers with di-Me, Me hydrogen silazanes, reaction products with 3-(triethoxysilyl)-1-propanamine	30 - 50 %
919-30-2	3-aminopropyltriethoxysilane	5 - 10 %
108-88-3	toluene	<1 %

4. First-aid measures**Description of first aid measures****General information**

First aider: Pay attention to self-protection! Remove contaminated, saturated clothing immediately. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation

Remove casualty to fresh air and keep warm and at rest. Call a physician immediately. No direct artificial respiration to be given by first aider.

After contact with skin

After contact with skin, wash immediately with: Polyethylene glycol 400, Water.

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After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Remove contact lenses, if present and easy to do. Continue rinsing.

After ingestion

Rinse mouth, spit liquid again. Do NOT induce vomiting. Call a physician immediately.

Most important symptoms and effects, both acute and delayed

In case of inhalation: Headache. Cough.

Following skin contact: Causes severe burns. Irritation. Redness. Allergic reactions.

Harmful if swallowed.

May cause drowsiness or dizziness.

Prolonged or repeated skin contact may cause removal of natural fat from the skin resulting in dermatitis (skin inflammation).

Suspected of damaging fertility or the unborn child.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO₂). Dry extinguishing powder. alcohol resistant foam.

Co-ordinate fire-fighting measures to the fire surroundings.

Specific hazards arising from the chemical

In case of fire may be liberated: Nitrogen oxides (NO_x). Carbon monoxide. Carbon dioxide (CO₂). Silicon dioxide (SiO₂).

Special protective equipment and precautions for fire-fighters

Co-ordinate fire-fighting measures to the fire surroundings.

Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information

Do not allow to enter into surface water or drains. Contaminated fire-fighting water must be collected separately.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Remove persons to safety. Remove all sources of ignition. Ventilate affected area.

Avoid contact with skin, eyes and clothes. Wear personal protection equipment.

Environmental precautions

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Collect in closed and suitable containers for disposal. Clean contaminated articles and floor according to the environmental legislation.

Reference to other sections

Personal protection equipment (PPE): see section 8

Safe handling: see section 7

Disposal: see section 13

7. Handling and storage

Precautions for safe handling

Advice on safe handling

Do not breathe gas/fume/vapour/spray. Provide adequate ventilation as well as local exhaustion at critical

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locations. Do not get in eyes, on skin, or on clothing. Wear personal protection equipment.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges.

Provide earthing of containers, equipment, pumps and ventilation facilities.

Flammable vapours can accumulate in head space of closed systems. In use, may form flammable/explosive vapour-air mixture. Heating causes rise in pressure with risk of bursting.

Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed in a cool, well-ventilated place. Protect against direct sunlight.

Ensure adequate ventilation of the storage area.

Make sure spills can be contained (e.g. sump pallets or kerbed areas).

Open the container at periodic intervals in order to release any pressure that may arise (ammonia).

Hints on joint storage

Keep away from food, drink and animal feedingstuffs.

Further information on storage conditions

Keep the packing dry and well sealed to prevent contamination and absorption of humidity.

Protect against: UV-radiation/sunlight. heat. Humidity. Frost.

storage temperature: 15-25°C

8. Exposure controls/personal protection

Control parameters

Exposure limits

CAS No.	Substance	ppm	mg/m ³	f/cc	Category	Origin
108-88-3	Toluene	200	-		TWA (8 h)	PEL
		100	375		TWA (8 h)	REL
		150	560		STEL (15 min)	REL
		500	-		Peak	PEL
		C 300	-		Ceiling	PEL
123-86-4	n-Butyl acetate	150	710		TWA (8 h)	REL
		200	950		STEL (15 min)	REL
123-86-4	n-Butyl-acetate	150	710		TWA (8 h)	PEL

Exposure controls



Appropriate engineering controls

Provide adequate ventilation as well as local exhaust at critical locations.

Protective and hygiene measures

Avoid contact with skin, eyes and clothes. Remove contaminated, saturated clothing immediately. Protect skin by using skin protective cream. After work, wash hands and face. When using do not eat or drink.

Eye/face protection

Eye glasses with side protection (DIN EN 166)

Hand protection

In case of prolonged or frequently repeated skin contact: Wear suitable gloves.

Suitable material: Butyl rubber.

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Thickness of the glove material 0,5 mm

Breakthrough time \geq 480 min. ~ 120 min. (estimated)

In the case of wanting to use the gloves again, clean them before taking off and air them well. Before using check leak tightness / impermeability.

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.

The selected protective gloves should satisfy the specifications of standards like EN 374.

Skin protection

Wear suitable protective clothing.

Required properties: antistatic. flame-retardant.

Category 3, Type 3 Liquid-tight / Category 3, Type 4 Spray-tight

Respiratory protection

With correct and proper use, and under normal conditions, breathing protection is not required.

Respiratory protection necessary at: Generation/formation of aerosols, exceeding exposure limit values, insufficient ventilation.

Suitable respiratory protective equipment: Combination filter device (e.g., airline respirators with an airpurifying filter) EN 14387 or 29 CFR 1910.134 standard.

The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

9. Physical and chemical properties**Information on basic physical and chemical properties**

Physical state:	liquid
Color:	colorless
Odor:	like: Ammonia
pH-Value:	not applicable

Changes in the physical state

Melting point/freezing point:	125 °C
Initial boiling point and boiling range:	not applicable
Flash point:	16 °C

Flammability

Solid:	not determined
Gas:	not determined

Explosive properties

not determined

Lower explosion limits:	not determined
Upper explosion limits:	not determined
Ignition temperature:	435 °C

Auto-ignition temperature

Solid:	not determined
Gas:	not determined

Decomposition temperature:	not determined
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Oxidizing properties

not determined

Vapor pressure:	not determined
Density (at 20 °C):	0,92 g/cm ³
Partition coefficient:	not determined

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Viscosity / dynamic:	not determined
Viscosity / kinematic:	not determined
Vapor density:	not determined
Solvent separation test:	not determined

Other information

Solid content:	not determined
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10. Stability and reactivity**Reactivity**

The product is rapidly hydrolyzed in the presence of water to: hydrogen, ammonia, siloxanes.

Chemical stability

Stability: Stable

The product is rapidly hydrolyzed in the presence of water to: hydrogen, ammonia, siloxanes.

Possibility of hazardous reactions

Hazardous reactions: Will not occur

Reacts vigorously with water, including moisture in the air.

Reacts with: Alcohol. Amines. Oxidizing agent. Base. Acid. halogenated compounds.

Conditions to avoid

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Protect from heat and direct sunlight. Protect from moisture.

Incompatible materials

Materials to avoid: Oxidizing agents, strong. Reducing agents, strong. Strong acid. strong alkalis.

Water. Ethanol.

Hazardous decomposition products

Hydrogen. Ammonia.

11. Toxicological information**Information on toxicological effects****Route(s) of Entry**

Ingestion: May be harmful if swallowed. Inhalation: May be harmful if inhaled. May cause drowsiness or dizziness. Skin contact: Causes burns. May cause sensitisation by skin contact. Eye contact: Causes burns.

Chronic: Suspected of damaging fertility or the unborn child

Acute toxicity

Harmful if swallowed

ATEmix calculated

ATE (oral) 947,0 mg/kg

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CAS No	Components				
	Exposure route	Dose	Species	Source	Method
123-86-4	n-butyl acetate				
	oral	LD50 mg/kg	13100	Rat	
	dermal	LD50 mg/kg	>17600	Rabbit	
	inhalation (4 h) vapour	LC50	>21 mg/l	Rat	
475645-84-2	Cyclosilazanes, di-Me, Me hydrogen, polymers with di-Me, Me hydrogen silazanes, reaction products with 3-(triethoxysilyl)-1-propanamine				
	oral	ATE mg/kg	500		
919-30-2	3-aminopropyltriethoxysilane				
	oral	LD50 mg/kg	1780	Rat	RTECS
	dermal	LD50 mg/kg	3800	Rabbit	RTECS
108-88-3	toluene				
	oral	LD50 mg/kg	5300- 5910	Rat	
	dermal	LD50 mg/kg	12200	Rabbit	
	inhalation (4 h) vapour	LC50	28,1 mg/l	Rat	

Irritation and corrosivity

Causes severe skin burns and eye damage

Causes serious eye damage

Sensitizing effects

May cause an allergic skin reaction (3-aminopropyltriethoxysilane)

Carcinogenic/mutagenic/toxic effects for reproduction

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Suspected of damaging fertility or the unborn child (toluene)

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

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

n-butyl acetate:

Subchronic inhalation toxicity: Method EPA OTS 798.2450 (90-Day Inhalation Toxicity); Species: Rat; Exposure duration: 90 d; Result: NOAEC = 500 ppm. Literature information: ECHA Dossier ; In-vitro mutagenicity:

Method: OECD Guideline 471 (Bacterial Reverse Mutation Assay); Result: negative. Literature information:

ECHA Dossier; Reproductive toxicity: Method: (inhalation.): OECD Guideline 416 (Two-Generation

Reproduction Toxicity Study); Species: Rat ; Exposure duration: 70d. Result: NOAEC = 750 ppm; Literature

information: ECHA Dossier; Developmental toxicity/teratogenicity: Method: (inhalation.): OECD Guideline 414

(Prenatal Developmental Toxicity Study); Species: Rat ; Exposure duration: 42d; Result: NOAEC = 1500 ppm;

Literature information: ECHA Dossier

3-aminopropyltriethoxysilane:

In-vitro mutagenicity: Method: OECD 471 (Ames test). Result / evaluation: negative.; In vivo

mutagenicity/genotoxicity: Method: OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test) Species:

Mouse. Result / evaluation: negative.; Reproductive toxicity: Method: OECD 408 Species: Rat. Exposure

duration: 90d. Result / evaluation: NOAEL = 200 mg/kg bw/day; Developmental toxicity/teratogenicity: Method:

EPA OTS 798.4900 (Prenatal Developmental Toxicity Study). Species: Rat. Exposure duration: 14d. Result /

evaluation: NOAEL = 100 mg/kg bw/day

toluene:

In-vitro mutagenicity: Method: OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test); Result:

negative. Literature information: ECHA Dossier; Carcinogenicity: Method: [inhalative, OECD Guideline 453

(Combined Chronic Toxicity / Carcinogenicity Studies)]; Species: Rat ; Exposure duration: 2 years ; Result:

NOAEC = 4522 mg/m³; Literature information: ECHA Dossier; Reproductive toxicity: Method: OECD Guideline

416 (Two-Generation Reproduction Toxicity Study); Species: Rat ; Result: NOAEC = 1875 mg/m³; Literature

information: ECHA Dossier ; Developmental toxicity/teratogenicity: Method: [inhalative, EPA OTS 798.4350

(Inhalation Developmental Toxicity Screen)]; Species: Rabbit; Exposure duration: 20d ; Result: NOEC = 2812

mg/kg; Literature information: ECHA Dossier

Specific target organ toxicity (STOT) - single exposure

May cause drowsiness or dizziness (n-butyl acetate)

Specific target organ toxicity (STOT) - repeated exposure

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

n-butyl acetate:

Subchronic inhalation toxicity: Method EPA OTS 798.2450 (90-Day Inhalation Toxicity); Species: Rat;

Exposure duration: 90 d; Result: NOAEC = 500 ppm. Literature information: ECHA Dossier

toluene:

Subchronic oral toxicity: Method: EU Method B.26 (Sub-Chronic Oral Toxicity Test: Repeated Dose 90-Day

Oral Toxicity Study in Rodents); Species: Mouse. ; Exposure duration: 90d; Result: NOEL = 625 mg/kg ;

Literature information: ECHA Dossier; Subchronic inhalation toxicity: Method: -; Species: Rat. Exposure

duration: 1 year ; Result: NOAEC = 1131 mg/m³; Literature information: ECHA Dossier

3-aminopropyltriethoxysilane:

Subchronic oral toxicity : Method: OECD 408 Species: Rat. Exposure duration: 90d. Result / evaluation:

NOAEL = 200 mg/kg bw/day Literature information: ECHA Dossier

Carcinogenicity (OSHA): No ingredient of this mixture is listed.

Carcinogenicity (IARC): Toluene (CAS 108-88-3) is listed in group 3.

Carcinogenicity (NTP): No ingredient of this mixture is listed.

Aspiration hazard

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

Practical experience

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Other observations

Has degreasing effect on the skin.

12. Ecological information

Ecotoxicity

Harmful to aquatic life with long lasting effects.

Persistence and degradability

No data available.

Bioaccumulative potential

No data available.

Mobility in soil

No data available.

Other adverse effects

No data available.

13. Disposal considerations

Waste treatment methods**Advice on disposal**

Do not mix with aqueous waste or waste containing protic substances.

Waste disposal according to official state regulations. Consult the local waste disposal expert about waste disposal. Do not allow to enter into surface water or drains. Contaminated fire-fighting water must be collected separately.

RCRA Hazardous wastes (Resource Conservation and Recovery Act)

D001 Ignitability

Contaminated packaging

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

14. Transport information

US DOT 49 CFR 172.101

<u>UN/ID number:</u>	UN 2924
<u>Proper shipping name:</u>	Flammable liquids, corrosive, n.o.s.
<u>Transport hazard class(es):</u>	3
<u>Packing group:</u>	II
Hazard label:	3, 8

Marine transport (IMDG)

<u>UN number:</u>	UN 2924
<u>UN proper shipping name:</u>	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (organic polysilazane compound, n-butyl acetate)
<u>Transport hazard class(es):</u>	3
<u>Packing group:</u>	II
Hazard label:	3+8



Special Provisions:	274
Limited quantity:	1 L

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Excepted quantity: E2
 EmS: F-E, S-C

Air transport (ICAO-TI/IATA-DGR)

UN number: UN 2924
UN proper shipping name: FLAMMABLE LIQUID, CORROSIVE, N.O.S. (organic polysilazane compound, n-butyl acetate)
Transport hazard class(es): 3
Packing group: II
 Hazard label: 3+8



Special Provisions: A3
 Limited quantity Passenger: 0.5 L
 Passenger LQ: Y340
 Excepted quantity: E2
 IATA-packing instructions - Passenger: 352
 IATA-max. quantity - Passenger: 1 L
 IATA-packing instructions - Cargo: 363
 IATA-max. quantity - Cargo: 5 L

Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

Special precautions for user

No special precautions known.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

not applicable

15. Regulatory information**U.S. Regulations****National Inventory TSCA**

toluene not listed under TSCA 12(b), listed in the TSCA inventory
 n-butyl acetate not listed under TSCA 12(b), listed in the TSCA inventory
 Cyclosilazanes, di-Me, Me hydrogen, polymers with di-Me, Me hydrogen silazanes, reaction products with 3-(triethoxysilyl)-1-propanamine listed under TSCA 12(b), listed in the TSCA inventory
 3-aminopropyltriethoxysilane not listed under TSCA 12(b), listed in the TSCA inventory

National regulatory information

SARA Section 304 CERCLA:

Butyl acetate (123-86-4): Reportable quantity = 5,000 (2270) lbs. (kg)
 Toluene (108-88-3): Reportable quantity = 1,000 (454) lbs. (kg)

SARA Section 311/312 Hazards:

Butyl acetate (123-86-4): Fire hazard, Immediate (acute) health hazard
 Cyclosilazanes, di-Me, Me hydrogen, polymers with di-Me, Me hydrogen silazanes, reaction products with 3-(triethoxysilyl)-1-propanamine (475645-84-2): Fire hazard, Immediate (acute) health hazard
 3-aminopropyltriethoxysilane (919-30-2): Immediate (acute) health hazard
 Toluene (108-88-3): Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard

SARA Section 313 Toxic release inventory:

Toluene (108-88-3): De minimis limit = 1.0 %, Reportable threshold = Standard

Clean Air Act Section 112(b):

Toluene (108-88-3)

State Regulations

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Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65, State of California)

WARNING: This product can expose you to chemicals including Toluene (developmental), which are known to the State of California to cause cancer, birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Additional information

Observe in addition any national regulations!

16. Other information**Hazardous Materials Information Label (HMIS)**

Health:	*3
Flammability:	3
Physical Hazard:	1
Personal Protection:	B

NFPA Hazard Ratings

Health:	2
Flammability:	3
Reactivity:	1
Unique Hazard:	-

**Changes**

Revision date:	19.12.2019
Revision No:	1,01
Version 1,00 - Initial release - 06.08.2019	
Version 1,01 - General update - 19.12.2019	

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 BImSchV (Fed.Imm.Prot.Act): Directive on the Implementation of the Federal Immission Protection Act CAS:
 Chemical Abstracts Service
 DIN: Norm of the Deutsche Institut für Normung (German Institute for Standardization)
 EC: Effective Concentration
 EG: European Community (Europäische Gemeinschaft)
 EN: European Norm
 IATA: International Air Transport Association
 IBC Code: International Code for the Construction and Equipment of ships carrying Dangerous Chemicals in Bulk
 ICAO: International Civil Aviation Organization
 IMDG: International Maritime Code for Dangerous Goods
 ISO: Norm of the International Standards Organization
 CLP: Classification, Labeling, Packaging
 IUCLID: International Uniform Chemical Information Database
 LC: Lethal concentration
 LD: Lethal dose
 log Kow: Octanol/water partition coefficient
 MARPOL: Maritime Pollution Convention = Convention for the Prevention of Maritime Pollution from Ships OECD:
 Organisation for Economic Co-operation and Development
 PBT: Persistent, bio-cumulative, toxic
 RID: Regulation Concerning the International Transport of Dangerous Goods by Rail
 TRGS: Technische Regeln für Gefahrstoffe
 UN: United Nations
 VOC: Volatile Organic Compounds
 vPvB: very persistent and very bio-cumulative
 VwVwS: Administrative Regulation for Water Pollutants
 WGK: German Water Hazard Class

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GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

DNEL: Derived No Effect Level

PNEC: Predicted No Effect Concentration

TLV: Threshold Limiting Value

STOT: Specific Target Organ Toxicity

Other data

Classification according 29 CFR Part 1910.1200:

Classification procedure:

Health hazards: Calculation method.

Environmental hazards: Calculation method.

Physical hazards: On basis of test data. and / or calculated and / or estimated.

The information given in this safety data sheet is to describe the product's safety regulations. It is not for guaranteeing certain characteristics and is based on today's knowledge. The safety data sheet was generated upon information of pre-suppliers by:

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(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)