









# PICO Assay All-in-One Set

## Kit cover sheet

Date of compilation:2023-01-30

### Composition/information on ingredients

#### Hazardous components (including safety data sheet)

Components	Number of pieces	Classification acc. to GHS	Pictograms	Page
Activation Reagent	1	Acute Tox. 3 / H301		2 – 12
Maleimide	1	Acute Tox. 2 / H300 Skin Corr. 1B / H314 Eye Dam. 1 / H318 Skin Sens. 1 / H317	  	13 – 24
10x Storage Buffer	1	Acute Tox. 4 / H302 Acute Tox. 3 / H311 STOT RE 2 / H373 HNOC010	 	25 – 38
Antibody Resin	1	Flam. Liq. 2 / H225		39– 49
Additive L	1	Skin Irrit. 2 / H315 Eye Dam. 1 / H318 HNOC001 HNOC010		50 – 64

#### Non hazardous components (no safety data sheet attached)

Components	Number of pieces
Actomidin	4
Conjugation Buffer	1
Quenching Buffer	1
Buffer A	1
Elution Buffer	1
10x Wash Buffer	1
Additive C	5
Additive T	1
BSA	5

## Activation Reagent

Version number: 1.0

Date of compilation: 2023-01-02

### SECTION 1: Identification

#### 1.1 Product identifier

Trade name

**Activation Reagent**

Identification of the substance

**2-Iminothiolane hydrochloride**

CAS number

4781-83-3

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

Relevant identified uses

Professional use

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

Actome GmbH  
Georges-Köhler-Allee 103  
79110 Freiburg  
Germany

Telephone: +49 761 21630500  
e-mail: [info@actome.de](mailto:info@actome.de)  
Website: <https://www.actome.de/>

e-mail (competent person)

[info@actome.de](mailto:info@actome.de)

#### 1.4 Emergency telephone number

Emergency information service

+49 761 21630500  
This number is only available during the following office hours: Mon-Fri 09:00 - 17:00

### 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.10	acute toxicity (oral)	3	Acute Tox. 3	H301

For full text of H-phrases: see SECTION 16

#### 2.2 Label elements

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

- signal word **Danger**

- pictograms

GHS06



- hazard statements

H301 Toxic if swallowed.

- precautionary statements

P264 Wash hands thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P301+P310 If swallowed: Immediately call a poison center/doctor/...  
P321 Specific treatment (see on this label).  
P330 Rinse mouth.  
P405 Store locked up.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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**2.3 Other hazards**

There is no additional information.

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB ( $\geq 0,1\%$ ).

Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of  $\geq 0,1\%$ .

**SECTION 3: Composition/information on ingredients****3.1 Substances**

Name of substance	2-Iminothiolane hydrochloride
Identifiers	
CAS No	4781-83-3

**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. In case of unconsciousness place person in the recovery position. Never give anything by mouth. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice.

Following inhalation

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

Following skin contact

Brush off loose particles from skin. Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.

Following eye contact

Do not rub the eyes. Mechanical stress can cause damage to the cornea. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Following ingestion

Rinse mouth with water (only if the person is conscious). Induce vomiting when the affected person is not unconscious. Immediately call a POISON CENTER/doctor.

**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**

For specialist advice physicians should contact the poison centre.

**SECTION 5: Fire-fighting measures****5.1 Extinguishing media**

Suitable extinguishing media

Water; Foam; Alcohol resistant foam; Dry extinguishing powder; ABC-powder;  
Coordinate firefighting measures to the fire surroundings.

Unsuitable extinguishing media

Water jet.

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

Hazardous combustion products

During fire hazardous fumes/smoke could be produced.

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**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.

Special protective equipment for firefighters

Self-contained breathing apparatus (SCBA). Standard protective clothing for firefighters.

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

For non-emergency personnel

Remove persons to safety. Ventilate affected area.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases. Wear personal protective equipment/face protection.

**6.2 Environmental precautions**

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

**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

Take up mechanically.

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**

Managing of associated risks

- flammability hazards

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

- incompatible substances or mixtures

Keep away from alkalis, oxidising substances, acids.

Control of the effects

Protect against external exposure, such as

High temperatures. UV-radiation/sunlight.

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## Consideration of other advice

Store in a well-ventilated place. Keep container tightly closed.

## - packaging compatibilities

Keep only in original container.

**7.3 Specific end use(s)**

There is no additional information.

**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****National limit values**

No information available.

**Relevant DNELs/DMELs/PNECs and other threshold levels**

No data available.

**8.2 Exposure controls**

## Appropriate engineering controls

General ventilation.

## Individual protection measures (personal protective equipment)

## Eye/face protection



Use safety goggle with side protection

## Skin protection



Chemical protective clothing.

## - hand protection



Wear suitable gloves. The selection of the suitable gloves does not only depend on the material, but also on other quality characteristics and varies from manufacturer to manufacturer.

## - type of material

Nitrile rubber

## - material thickness

Use gloves with a minimum material thickness:  $\geq 0,38$  mm.

## - breakthrough time of the glove material

Use gloves with a minimum breakthrough time of the glove material: >480 minutes (permeation: level 6).

## - other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling. Provide eyewash stations and safety showers at the workplace.

## Respiratory protection

In case of inadequate ventilation wear respiratory protection. Observe the OSHA respirator regulations cited in 29 CFR 1910.134 and use NIOSH/MSHA approved respirators.

## Environmental exposure controls

Take appropriate precautions to avoid uncontrolled release into the environment. Keep away from drains, surface and ground water.

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**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties****Appearance**

Physical state	solid (powder)
Color	white - beige
Particle	no data available
Odor	like sulfur

**Other safety parameters**

pH (value)	not applicable
Melting point/freezing point	198 – 201 °C
Initial boiling point and boiling range	not determined
Flash point	not applicable
Evaporation rate	not determined
Flammability (solid, gas)	this material is combustible, but will not ignite readily
Vapor pressure	not determined
Density	not determined
Vapor density	this information is not available

**Solubility(ies)**

- water solubility	100 g/l
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- n-octanol/water (log KOW)	this information is not available
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Auto-ignition temperature	not determined
Decomposition temperature	no data available

Viscosity not relevant (solid matter)

- kinematic viscosity	not relevant
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Explosive properties	none
Oxidizing properties	none

**9.2 Other information**

There is no additional information.

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### SECTION 10: Stability and reactivity

#### 10.1 Reactivity

This material is not reactive under normal ambient conditions.

#### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

#### 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

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

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

Acute toxicity

Toxic if swallowed.

- acute toxicity estimate (ATE)

Exposure route	ATE
Oral	300 mg/kg

Acute toxicity			
Exposure route	Endpoint	Value	Species
oral	LD50	300 mg/kg	rat

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

Shall not be classified as a respiratory or skin sensitizer.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

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).

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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.

**11.2 Information on other hazards**

Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of  $\geq 0,1\%$ .

**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**

According to the results of its assessment, this substance is not a PBT or a vPvB.

**12.6 Endocrine disrupting properties**

Does not contain 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.

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****14.1 UN number**

DOT UN 2811

IMDG-Code UN 2811

ICAO-TI UN 2811

**14.2 UN proper shipping name**

DOT Toxic solid, organic, n.o.s.

IMDG-Code TOXIC SOLID, ORGANIC, N.O.S.

ICAO-TI Toxic solid, organic, n.o.s.



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Technical name	2-Iminoethiolane hydrochloride
<b>14.3 Transport hazard class(es)</b>	
DOT	6.1
IMDG-Code	6.1
ICAO-TI	6.1
<b>14.4 Packing group</b>	
DOT	III
IMDG-Code	III
ICAO-TI	III
<b>14.5 Environmental hazards</b>	non-environmentally hazardous acc. to the dangerous goods regulations
<b>14.6 Special precautions for user</b>	
There is no additional information.	
<b>14.7 Transport in bulk according to IMO instruments</b>	
No data available.	

### Information for each of the UN Model Regulations

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

Particulars in the shipper's declaration	UN2811, Toxic solid, organic, n.o.s., (Activation Reagent), 6.1, III
Danger label(s)	6.1



Special provisions (SP)	IB8, IP3, T1, TP33
ERG No	154

#### International Maritime Dangerous Goods Code (IMDG) - additional information

Marine pollutant	-
Danger label(s)	6.1



Special provisions (SP)	223, 274
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 kg
EmS	F-A, S-A
Stowage category	A

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

Danger label(s)	6.1
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Special provisions (SP)	A3, A5
Excepted quantities (EQ)	E1
Limited quantities (LQ)	10 kg

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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)

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

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

not listed

- Specific Toxic Chemical Listings (EPCRA Section 313)

not listed

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

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

not listed

##### Clean Air Act

not listed

##### Right to Know Hazardous Substance List

- Cleaning Product Right to Know Act Substance List (CA-RTK)

not listed

- Toxic or Hazardous Substance List (MA-TURA)

not listed

- Hazardous Substances List (MN-ERTK)

not listed

- Hazardous Substance List (NJ-RTK)

not listed

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

not listed

- Hazardous Substance List (RI-RTK)

not listed

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

not listed

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

##### NPCA-HMIS® III

Hazardous Materials Identification System. American Coatings Association.

Category	Rating	Description
Chronic	/	none
Health	2	temporary or minor injury may occur
Flammability	2	material that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur
Physical hazard	0	material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive
Personal protection	-	

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### 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	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		

### 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance by the supplier.

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

### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
49 CFR US DOT	49 CFR U.S. Department of Transportation
ATE	Acute Toxicity Estimate
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
DGR	Dangerous Goods Regulations (see IATA/DGR)
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
DOT	Department of Transportation (USA)
EmS	Emergency Schedule
ERG No	Emergency Response Guidebook - Number
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
NPCA-HMIS® III	National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
vPvB	Very Persistent and very Bioaccumulative

### Key literature references and sources for data

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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).

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

Code	Text
H301	Toxic if swallowed.

### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

## Maleimide

Version number: 1.0

Date of compilation: 2023-01-02

### SECTION 1: Identification

#### 1.1 Product identifier

Trade name	<b>Maleimide</b>
Identification of the substance	<b>Maleimide</b>
CAS number	541-59-3

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

Relevant identified uses	Professional use
Uses advised against	Do not use for products which come into direct contact with the skin.

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

Actome GmbH  
Georges-Köhler-Allee 103  
79110 Freiburg  
Germany

Telephone: +49 761 21630500  
e-mail: [info@actome.de](mailto:info@actome.de)  
Website: <https://www.actome.de/>

e-mail (competent person) [info@actome.de](mailto:info@actome.de)

#### 1.4 Emergency telephone number

Emergency information service  
+49 761 21630500  
This number is only available during the following office hours: Mon-Fri 09:00 - 17:00

### 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.1O	acute toxicity (oral)	2	Acute Tox. 2	H300
A.2	skin corrosion/irritation	1B	Skin Corr. 1B	H314
A.3	serious eye damage/eye irritation	1	Eye Dam. 1	H318
A.4S	skin sensitization	1	Skin Sens. 1	H317

For full text of H-phrases: see SECTION 16

The most important adverse physicochemical, human health and environmental effects

Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis.

#### 2.2 Label elements

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

- signal word **Danger**

- pictograms

GHS05, GHS06,  
GHS07



**Maleimide**

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**- hazard statements**

H300	Fatal if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.

**- precautionary statements**

P260	Do not breathe dusts or mists.
P270	Do not eat, drink or smoke when using this product.
P272	Contaminated work clothing must not be allowed out of the workplace.
P280	Wear eye protection/face protection.
P301+P310	If swallowed: Immediately call a poison center/doctor/...
P301+P330+P331	If swallowed: Rinse mouth. Do NOT induce vomiting.
P302+P352	If on skin: Wash with plenty of water/...
P303+P361+P353	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	If inhaled: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P321	Specific treatment (see on this label).
P363	Wash contaminated clothing before reuse.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

**2.3 Other hazards**

There is no additional information.

**Results of PBT and vPvB assessment**

According to the results of its assessment, this substance is not a PBT or a vPvB ( $\geq 0,1\%$ ).

**Endocrine disrupting properties**

Does not contain an endocrine disruptor (EDC) in a concentration of  $\geq 0,1\%$ .

**SECTION 3: Composition/information on ingredients****3.1 Substances**

Name of substance	maleimide
Identifiers	
CAS No	541-59-3

**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. In case of unconsciousness place person in the recovery position. Never give anything by mouth. Do not take off clothes. In all cases of doubt, or when symptoms persist, seek medical advice.

**Following inhalation**

Provide fresh air. If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Call a POISON CENTER/doctor.

**Following skin contact**

Brush off loose particles from skin. Rinse immediately contaminated clothing and skin with plenty of water before removing clothes, if possible. Immediately call a POISON CENTER/doctor.

**Following eye contact**

Do not rub the eyes. Mechanical stress can cause damage to the cornea. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

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Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting. Immediately call a POISON CENTER/doctor.

**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**

For specialist advice physicians should contact the poison centre.

**SECTION 5: Fire-fighting measures****5.1 Extinguishing media**

Suitable extinguishing media

Water; Foam; Dry extinguishing powder; ABC-powder;  
Coordinate firefighting measures to the fire surroundings.

Unsuitable extinguishing media

Water jet.

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

Deposited combustible dust has considerable explosion potential.

Hazardous combustion products

During fire hazardous fumes/smoke could be produced.

**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.

Special protective equipment for firefighters

Self-contained breathing apparatus (SCBA). Standard protective clothing for firefighters.

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

For non-emergency personnel

Remove persons to safety. Ventilate affected area. Control of dust.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases. Wear personal protective equipment/face protection.

**6.2 Environmental precautions**

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

**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

Take up mechanically.

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.

## Maleimide

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### 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.
- specific notes/details  
Dust deposits may accumulate on all deposition surfaces in a technical room.

##### 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.
- flammability hazards  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- incompatible substances or mixtures  
Keep away from alkalis, oxidising substances, acids.

##### Control of the effects

##### Protect against external exposure, such as

High temperatures. UV-radiation/sunlight.

##### Consideration of other advice

Store in a well-ventilated place. Keep container tightly closed.

- ventilation requirements  
Use local and general ventilation.
- packaging compatibilities  
Keep only in original container.

#### 7.3 Specific end use(s)

There is no additional information.

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

##### National limit values

Occupational exposure limit values (Workplace Exposure Limits)									
Cou ntry	Name of agent	CAS No	Identi- fier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Nota- tion	Source
US	particulates not other- wise classified (PNOC)		PEL	1,766	15			partml, i, dust	29 CFR 1910.1000
US	particulates not other- wise classified (PNOC)		PEL	529.5	5			partml, r, dust	29 CFR 1910.1000

##### Notation

dust as dust  
i inhalable fraction  
partml particles/ml



## Maleimide

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Date of compilation: 2023-01-02

### Notation

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)

### Relevant DNELs/DMELs/PNECs and other threshold levels

No data available.

## 8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection



Use safety goggle with side protection

Skin protection



Chemical protective clothing.

- hand protection



Wear suitable gloves. The selection of the suitable gloves does not only depend on the material, but also on other quality characteristics and varies from manufacturer to manufacturer.

- type of material

Nitrile rubber

- material thickness

Use gloves with a minimum material thickness:  $\geq 0,38$  mm.

- breakthrough time of the glove material

Use gloves with a minimum breakthrough time of the glove material: >480 minutes (permeation: level 6).

- other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling. Provide eyewash stations and safety showers at the workplace.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. Observe the OSHA respirator regulations cited in 29 CFR 1910.134 and use NIOSH/MSHA approved respirators.

Environmental exposure controls

Take appropriate precautions to avoid uncontrolled release into the environment. Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Appearance

## Maleimide

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Physical state	solid
Color	various
Particle	no data available
Odor	characteristic

### Other safety parameters

pH (value)	not applicable
Melting point/freezing point	91 – 93 °C
Initial boiling point and boiling range	125 °C at 130 hPa
Flash point	not applicable
Evaporation rate	not determined
Flammability (solid, gas)	this material is combustible, but will not ignite readily
Vapor pressure	8 hPa at 115 °C
Density	not determined
Vapor density	this information is not available
Solubility(ies)	not determined

- n-octanol/water (log KOW)	-0.29
Auto-ignition temperature	not determined
Decomposition temperature	no data available

Viscosity not relevant (solid matter)

- kinematic viscosity	not relevant
Explosive properties	none
Oxidizing properties	none

### 9.2 Other information

There is no additional information.

## Maleimide

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### SECTION 10: Stability and reactivity

#### 10.1 Reactivity

This material is not reactive under normal ambient conditions.

#### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

#### 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.

#### 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

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

##### Acute toxicity

Fatal if swallowed.

- acute toxicity estimate (ATE)

Exposure route	ATE
Oral	7.76 mg/kg

Acute toxicity			
Exposure route	Endpoint	Value	Species
oral	LD50	7.76 mg/kg	mouse

##### Skin corrosion/irritation

Causes severe skin burns and eye damage.

##### Serious eye damage/eye irritation

Causes serious eye damage.

##### 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.

##### Reproductive toxicity

Shall not be classified as a reproductive toxicant.

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**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.

**Other information**

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

**11.2 Information on other hazards****Endocrine disrupting properties**Does not contain an endocrine disruptor (EDC) in a concentration of  $\geq 0,1\%$ .**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**

n-octanol/water (log KOW)	-0.29
---------------------------	-------

**12.4 Mobility in soil**

Data are not available.

**12.5 Results of PBT and vPvB assessment**

According to the results of its assessment, this substance is not a PBT or a vPvB.

**12.6 Endocrine disrupting properties**Does not contain 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.

**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.

## Maleimide

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### SECTION 14: Transport information

#### 14.1 UN number

DOT	UN 2923
IMDG-Code	UN 2923
ICAO-TI	UN 2923

#### 14.2 UN proper shipping name

DOT	Corrosive solid, toxic, n.o.s.
IMDG-Code	CORROSIVE SOLID, TOXIC, N.O.S.
ICAO-TI	Corrosive solid, toxic, n.o.s.
Technical name	maleimide

#### 14.3 Transport hazard class(es)

DOT	8 (6.1)
IMDG-Code	8 (6.1)
ICAO-TI	8 (6.1)

#### 14.4 Packing group

DOT	II
IMDG-Code	II
ICAO-TI	II

#### 14.5 Environmental hazards

non-environmentally hazardous acc. to the dangerous goods regulations

#### 14.6 Special precautions for user

There is no additional information.

#### 14.7 Transport in bulk according to IMO instruments

No data available.

### Information for each of the UN Model Regulations

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

Particulars in the shipper's declaration	UN2923, Corrosive solid, toxic, n.o.s., (maleimide), 8 (6.1), II
Danger label(s)	8+6.1



Special provisions (SP)	IB8, IP2, IP4, T3, TP33
ERG No	154

#### International Maritime Dangerous Goods Code (IMDG) - additional information

Marine pollutant	-
Danger label(s)	8+6.1



Special provisions (SP)	274
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 kg
EmS	F-A, S-B

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Stowage category

B

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

Danger label(s)

8+6.1



Special provisions (SP)

A3

Excepted quantities (EQ)

E2

Limited quantities (LQ)

5 kg

## 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)

substance is listed as "ACTIVE"

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

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

not listed

- Specific Toxic Chemical Listings (EPCRA Section 313)

not listed

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

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

not listed

##### Clean Air Act

not listed

##### Right to Know Hazardous Substance List

- Cleaning Product Right to Know Act Substance List (CA-RTK)

not listed

- Toxic or Hazardous Substance List (MA-TURA)

not listed

- Hazardous Substances List (MN-ERTK)

not listed

- Hazardous Substance List (NJ-RTK)

not listed

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

not listed

- Hazardous Substance List (RI-RTK)

not listed

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

not listed

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

##### NPCA-HMIS® III

Hazardous Materials Identification System. American Coatings Association.

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Category	Rating	Description
Chronic	/	none
Health	3	major injury likely unless prompt action is taken and medical treatment is given
Flammability	2	material that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur
Physical hazard	0	material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive
Personal protection	-	

### 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
Special hazard		

### 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance by the supplier.

## 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
ATE	Acute Toxicity Estimate
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
DGR	Dangerous Goods Regulations (see IATA/DGR)
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
DOT	Department of Transportation (USA)
EmS	Emergency Schedule
ERG No	Emergency Response Guidebook - Number
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code

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Abbr.	Descriptions of used abbreviations
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
NPCA-HMIS® III	National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic
PEL	Permissible exposure limit
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
STEL	Short-term exposure limit
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).

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

Code	Text
H300	Fatal if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.

### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.



## 10x Storage Buffer

Version number: 1.0

Date of compilation: 2023-01-02

### SECTION 1: Identification

#### 1.1 Product identifier

Trade name

**10x Storage Buffer**

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

Relevant identified uses

Professional use

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

Actome GmbH  
Georges-Köhler-Allee 103  
79110 Freiburg  
Germany

Telephone: +49 761 21630500  
e-mail: [info@actome.de](mailto:info@actome.de)  
Website: <https://www.actome.de/>

e-mail (competent person)

[info@actome.de](mailto:info@actome.de)

#### 1.4 Emergency telephone number

Emergency information service

+49 761 21630500  
This number is only available during the following office hours: Mon-Fri 09:00 - 17:00

### 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.1O	acute toxicity (oral)	4	Acute Tox. 4	H302
A.1D	acute toxicity (dermal)	3	Acute Tox. 3	H311
A.9	specific target organ toxicity - repeated exposure	2	STOT RE 2	H373

For full text of H-phrases: see SECTION 16

Code	Supplemental hazard information
HNOC010	harmful to aquatic life with long lasting effects (GHS category 3: aquatic toxicity - acute and/or chronic)

The most important adverse physicochemical, human health and environmental effects

Delayed or immediate effects can be expected after short or long-term exposure.

#### 2.2 Label elements

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

- signal word

Danger

- pictograms

GHS06, GHS08



- hazard statements

H302

Harmful if swallowed.

H311

Toxic in contact with skin.

H373

May cause damage to organs (central nervous system) through prolonged or repeated exposure.

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### - precautionary statements

P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/protective clothing.
P301+P312	If swallowed: Call a poison center/doctor/.../ if you feel unwell.
P302+P352	If on skin: Wash with plenty of water/...
P312	Call a poison center/doctor/.../ if you feel unwell.
P321	Specific treatment (see on this label).
P330	Rinse mouth.
P362	Take off contaminated clothing and wash it before reuse.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

### - hazardous ingredients for labelling

Contains: Thiomersal.

## 2.3 Other hazards

There is no additional information.

### Hazards not otherwise classified

Harmful to aquatic life with long lasting effects (GHS category 3: aquatic toxicity - acute and/or chronic).

### Results of PBT and vPvB assessment

Does not contain any substances that are assessed to be PBT or vPvB  $\geq 0.1\%$ .

### Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of  $\geq 0.1\%$ .




## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Not relevant (mixture)

### 3.2 Mixtures

The product does not contain (other) ingredients which are classified according to present knowledge of the supplier and contribute to the classification of the product and hence require reporting in this section.

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes
Disodium hydrogen-orthophosphate	CAS No 7558-79-4	< 1	Acute Tox. 3 / H331 HNOC001 HNOC002		
Thiomersal	CAS No 54-64-8	< 1	Acute Tox. 2 / H300 Acute Tox. 1 / H310 Acute Tox. 2 / H330 STOT RE 2 / H373 HNOC008	 	1(a) A(a)

#### Notes

- 1(a): The concentration stated is the percentage by weight of the metallic element calculated with reference to the total weight of the mixture  
A(a): The name of substance is a general description. It is required that the correct name is stated on the label

### Remarks

All the percentages given are percentages by weight unless stated otherwise. For full text of H-phrases: see SECTION 16.

# 10x Storage Buffer

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Date of compilation: 2023-01-02

## 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. In case of unconsciousness place person in the recovery position. Never give anything by mouth. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following inhalation

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

#### Following skin contact

Wash with plenty of soap and water. Call a POISON CENTER/doctor.

#### Following eye contact

Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. Call a POISON CENTER/doctor.

#### Following ingestion

Rinse mouth with water (only if the person is conscious). Induce vomiting when the affected person is not unconscious. Call a POISON CENTER/doctor. Call a POISON CENTER or doctor/physician if you feel unwell.

### 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

For specialist advice physicians should contact the poison centre.

## SECTION 5: Fire-fighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Water spray; Alcohol resistant foam; Dry extinguishing powder; Carbon dioxide (CO<sub>2</sub>);  
Coordinate firefighting measures to the fire surroundings.

#### Unsuitable extinguishing media

Water jet.

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

#### Hazardous combustion products

During fire hazardous fumes/smoke could be produced.

### 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.

#### Special protective equipment for firefighters

Self-contained breathing apparatus (SCBA). Standard protective clothing for firefighters.

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**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

For non-emergency personnel

Remove persons to safety. Ventilate affected area.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases. Wear personal protective equipment/face protection.

**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).

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**

Managing of associated risks

- incompatible substances or mixtures

Keep away from alkalis, oxidising substances, acids.

Control of the effects

Protect against external exposure, such as

High temperatures. UV-radiation/sunlight. Frost.

Consideration of other advice

Store in a well-ventilated place. Keep container tightly closed.

- packaging compatibilities

Keep only in original container.

**7.3 Specific end use(s)**

There is no additional information.

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Date of compilation: 2023-01-02

**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****National limit values**

No information available.

**Relevant DNELs/DMELs/PNECs and other threshold levels**

No data available.

**8.2 Exposure controls**

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection



Use safety goggle with side protection

Skin protection



Chemical protective clothing.

- hand protection



Wear suitable gloves. Check leak-tightness/impermeability prior to use. 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 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.

- type of material

Nitrile rubber

- material thickness

Use gloves with a minimum material thickness:  $\geq 0,38$  mm.

- breakthrough time of the glove material

Use gloves with a minimum breakthrough time of the glove material: &gt;480 minutes (permeation: level 6).

- other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling. Provide eyewash stations and safety showers at the workplace.

**Respiratory protection**

In case of inadequate ventilation wear respiratory protection. Observe the OSHA respirator regulations cited in 29 CFR 1910.134 and use NIOSH/MSHA approved respirators.

**Environmental exposure controls**

Take appropriate precautions to avoid uncontrolled release into the environment. Keep away from drains, surface and ground water.

## 10x Storage Buffer

Version number: 1.0

Date of compilation: 2023-01-02

### SECTION 9: Physical and chemical properties

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

##### Appearance

Physical state	liquid
Color	clear
Particle	not relevant (liquid)
Odor	characteristic

##### Other safety parameters

pH (value)	not determined
Melting point/freezing point	not determined
Initial boiling point and boiling range	100 °C calculated value, referring to a component of the mixture
Flash point	not applicable
Evaporation rate	not determined
Flammability (solid, gas)	not relevant, (fluid)
Explosive limits	LEL: UEL: not determined
Vapor pressure	not determined
Density	not determined
Vapor density	this information is not available

##### Solubility(ies)

- water solubility	miscible in any proportion
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- n-octanol/water (log KOW)	this information is not available
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Auto-ignition temperature	not relevant
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Decomposition temperature	no data available
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Viscosity	not determined
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- kinematic viscosity	not determined
-----------------------	----------------

## 10x Storage Buffer

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Date of compilation: 2023-01-02

Explosive properties	none
Oxidizing properties	none

### 9.2 Other information

There is no additional information.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

This material is not reactive under normal ambient conditions.

### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

### 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

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

Harmful if swallowed. Toxic in contact with skin.

##### - acute toxicity estimate (ATE)

Exposure route	ATE
Oral	555.6 mg/kg
Dermal	555.6 mg/kg

##### - acute toxicity of components of the mixture

Acute toxicity estimate (ATE) of components of the mixture			
Name of substance	CAS No	Exposure route	ATE
Thiomersal	54-64-8	oral	5 mg/kg
Thiomersal	54-64-8	dermal	5 mg/kg
Thiomersal	54-64-8	inhalation: vapor	0.5 mg/l/4h
Disodium hydrogenorthophosphate	7558-79-4	inhalation: dust/mist	>0.83 mg/l/4h

## 10x Storage Buffer

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Acute toxicity of components of the mixture					
Name of substance	CAS No	Exposure route	Endpoint	Value	Species
Disodium hydrogenorthophosphate	7558-79-4	oral	LD50	>2,000 mg/kg	rat
Disodium hydrogenorthophosphate	7558-79-4	inhalation: dust/mist	LC50	>0.83 mg/l/4h	rat
Disodium hydrogenorthophosphate	7558-79-4	dermal	LD50	>2,000 mg/kg	rat

### 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

Shall not be classified as a respiratory or skin sensitizer.

### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

### Carcinogenicity

Shall not be classified as carcinogenic.

### 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

May cause damage to organs (central nervous system) through prolonged or repeated exposure.

Hazard category	Target organ	Exposure route
2	central nervous system	if exposed

### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

## 11.2 Information on other hazards

### Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of  $\geq 0,1\%$ .

## SECTION 12: Ecological information

### 12.1 Toxicity

Harmful 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
Disodium hydrogenorthophosphate	7558-79-4	LC50	>100 mg/l	fish	96 h
Disodium hydrogenorthophosphate	7558-79-4	EC50	>100 mg/l	aquatic invertebrates	48 h
Disodium hydrogenorthophosphate	7558-79-4	ErC50	>100 mg/l	algae	72 h



## 10x Storage Buffer

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Aquatic toxicity (acute) of components of the mixture					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Disodium hydrogenorthophosphate	7558-79-4	NOEC	100 mg/l	fish	96 h

Aquatic toxicity (chronic) of components of the mixture					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Disodium hydrogenorthophosphate	7558-79-4	EC50	>1,000 mg/l	microorganisms	3 h
Disodium hydrogenorthophosphate	7558-79-4	NOEC	1,000 mg/l	microorganisms	3 h

### 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

Does not contain any substances that are assessed to be PBT or vPvB  $\geq 0.1\%$ .

### 12.6 Endocrine disrupting properties

Does not contain 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.

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

### 14.1 UN number

DOT	UN 2024
IMDG-Code	UN 2024
ICAO-TI	UN 2024

### 14.2 UN proper shipping name

DOT	Mercury compounds, liquid, n.o.s.
IMDG-Code	MERCURY COMPOUNDS, LIQUID, N.O.S.
ICAO-TI	Mercury compounds, liquid, n.o.s.

# Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

## 10x Storage Buffer


Version number: 1.0

Date of compilation: 2023-01-02



Technical name (Hazardous ingredients)	MKP, Thiomersal
<b>14.3 Transport hazard class(es)</b>	
DOT	6.1
IMDG-Code	6.1
ICAO-TI	6.1
<b>14.4 Packing group</b>	
DOT	III
IMDG-Code	III
ICAO-TI	III
<b>14.5 Environmental hazards</b>	non-environmentally hazardous acc. to the dangerous goods regulations
<b>14.6 Special precautions for user</b>	
There is no additional information.	
<b>14.7 Transport in bulk according to IMO instruments</b>	
No data available.	

### Information for each of the UN Model Regulations


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

Particulars in the shipper's declaration	UN2024, Mercury compounds, liquid, n.o.s., (MKP, Thiomersal, solution), 6.1, III
Danger label(s)	6.1
	
Special provisions (SP)	IB3
ERG No	151

#### International Maritime Dangerous Goods Code (IMDG) - additional information

Marine pollutant	P (hazardous to the aquatic environment)
Danger label(s)	6.1
 	
Special provisions (SP)	43, 66, 223, 274
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
EmS	F-A, S-A
Stowage category	B
Segregation group	7 - Heavy metals and their salts 11 - Mercury and mercury compounds

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

Danger label(s)	6.1
	
Special provisions (SP)	A3, A4, A6, A18
Excepted quantities (EQ)	E1

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Limited quantities (LQ)

2 L

### 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 as "ACTIVE"

##### 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)

none of the ingredients are listed

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

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

Name acc. to inventory	CAS No	Remarks	Statutory code	Final RQ pounds (Kg)
Sodium phosphate, dibasic	7558-79-4		1	5000 (2270)

##### Legend

1 "1" indicates that the statutory source is section 311(b)(2) of the Clean Water Act

##### Clean Air Act

none of the ingredients are listed

##### Right to Know Hazardous Substance List

- Cleaning Product Right to Know Act Substance List (CA-RTK)

Name acc. to inventory	CAS No	Functionality	Authoritative Lists
Mercury and mercury compounds			ATSDR Neurotoxics CA MCLs CA TACs CDC 4th National Exposure Report CECBP - Priority Chemicals CWA 303(c) OEHHA RELs OSPAR Priority Action Part A US EPA TRI PBTs

- Toxic or Hazardous Substance List (MA-TURA)

Name acc. to inventory	CAS No	DEP CODE	PBT / HHS / LHS	PBT / HHS Threshold	De Minimis Concentration Threshold
Sodium phosphate, dibasic	7558-79-4				1.0 %
Mercury Compounds		1028	PBT	10 LBS	none

- Hazardous Substances List (MN-ERTK)

none of the ingredients are listed

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

Name acc. to inventory	CAS No	Remarks	Classifications
SODIUM PHOSPHATE, DIBASIC (PHOSPHORIC ACID, DISODIUM SALT)	7558-79-4		
mercury, aryl compounds			

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

Name acc. to inventory	CAS No	Classification
PHOSPHORIC ACID, DISODIUM SALT	7558-79-4	E
MERCURY	7439-97-6	*, E

#### Legend

\* Any compound of this substance is also an environmental hazard  
E Environmental hazard

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

none of the ingredients are listed

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

none of the ingredients are listed

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

#### NPCA-HMIS® III

Hazardous Materials Identification System. American Coatings Association.

Category	Rating	Description
Chronic	*	chronic (long-term) health effects may result from repeated overexposure
Health	2	temporary or minor injury may occur
Flammability	0	material that will not burn under typical fire conditions
Physical hazard	0	material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive
Personal protection	-	

#### 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	0	material that will not burn under typical fire conditions
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		

## 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this mixture by the supplier.

## 10x Storage Buffer

Version number: 1.0

Date of compilation: 2023-01-02

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

#### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
49 CFR US DOT	49 CFR U.S. Department of Transportation
Acute Tox.	Acute toxicity
ATE	Acute Toxicity Estimate
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
DEP CODE	Department of Environmental Protection Code
DGR	Dangerous Goods Regulations (see IATA/DGR)
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
DOT	Department of Transportation (USA)
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
EmS	Emergency Schedule
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
ERG No	Emergency Response Guidebook - Number
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
HHS	Higher hazard substance
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	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
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
LEL	Lower explosion limit (LEL)
LHS	Lower hazard substance
NOEC	No Observed Effect Concentration
NPCA-HMIS® III	National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
RTECS	Registry of Toxic Effects of Chemical Substances (database of NIOSH with toxicological information)
STOT RE	Specific target organ toxicity - repeated exposure
UEL	Upper explosion limit (UEL)

# Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

## 10x Storage Buffer

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Date of compilation: 2023-01-02

Abbr.	Descriptions of used abbreviations
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
H300	Fatal if swallowed.
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
H311	Toxic in contact with skin.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H373	May cause damage to organs (central nervous system) through prolonged or repeated exposure.

### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

## Additive L

Version number: 2.0  
Replaces version of: 2023-01-02 (1)

Revision: 2023-01-19

### SECTION 1: Identification

#### 1.1 Product identifier

Trade name	<b>Additive L</b>
Article number	PICO-000090 F

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

Relevant identified uses	Professional use
Uses advised against	Do not use for squirting or spraying.

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

Actome GmbH  
Georges-Köhler-Allee 103  
79110 Freiburg  
Germany

Telephone: +49 761 21630500  
e-mail: [info@actome.de](mailto:info@actome.de)  
Website: <https://www.actome.de/>

e-mail (competent person)	<a href="mailto:info@actome.de">info@actome.de</a>
---------------------------	----------------------------------------------------

#### 1.4 Emergency telephone number

Emergency information service	+49 761 21630500 This number is only available during the following office hours: Mon-Fri 09:00 - 17:00
-------------------------------	------------------------------------------------------------------------------------------------------------

### 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

For full text of H-phrases: see SECTION 16

Code	Supplemental hazard information
HNOC001	may be harmful if swallowed (GHS category 5: acutely toxic - oral)
HNOC010	harmful to aquatic life with long lasting effects (GHS category 3: aquatic toxicity - acute and/or chronic)

#### 2.2 Label elements

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

- signal word                      Danger

- pictograms

GHS05



- hazard statements

H315	Causes skin irritation.
H318	Causes serious eye damage.

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### - precautionary statements

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.

### - hazardous ingredients for labelling

Contains: Poly(oxyethylene) p-(1,1,3,3-tetramethylbutyl)phenyl ether.

## 2.3 Other hazards

There is no additional information.

### Hazards not otherwise classified

May be harmful if swallowed (GHS category 5: acutely toxic - oral).

Harmful to aquatic life with long lasting effects (GHS category 3: aquatic toxicity - acute and/or chronic).

### Results of PBT and vPvB assessment

Does not contain any substances that are assessed to be PBT or vPvB  $\geq 0.1\%$ .

### Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of  $\geq 0.1\%$ .



## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Not relevant (mixture)

### 3.2 Mixtures

The product does not contain (other) ingredients which are classified according to present knowledge of the supplier and contribute to the classification of the product and hence require reporting in this section.

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes
Poly(oxyethylene) p-(1,1,3,3-tetramethylbutyl)phenyl ether	CAS No 9002-93-1	10 – 20	Acute Tox. 4 / H302 Skin Irrit. 2 / H315 Eye Dam. 1 / H318 HNOC009	 	

### Remarks

All the percentages given are percentages by weight unless stated otherwise. For full text of H-phrases: see SECTION 16.

## 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. In case of unconsciousness place person in the recovery position. Never give anything by mouth. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following inhalation

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

#### Following skin contact

Wash with plenty of soap and water. Call a POISON CENTER/doctor.



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## Following eye contact

Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

## Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting. Call a POISON CENTER/doctor.

**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**

For specialist advice physicians should contact the poison centre.

**SECTION 5: Fire-fighting measures****5.1 Extinguishing media**

## Suitable extinguishing media

Water spray; Dry extinguishing powder; Carbon dioxide (CO<sub>2</sub>);  
Coordinate firefighting measures to the fire surroundings.

## Unsuitable extinguishing media

Water jet.

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

## Hazardous combustion products

During fire hazardous fumes/smoke could be produced.

**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.

## Special protective equipment for firefighters

Self-contained breathing apparatus (SCBA). Standard protective clothing for firefighters.

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

## For non-emergency personnel

Remove persons to safety. Ventilate affected area.

## For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases. Wear personal protective equipment/face protection.

**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).

## Appropriate containment techniques

Use of adsorbent materials.

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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. 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 feedings.

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

Managing of associated risks

- flammability hazards

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge.

- incompatible substances or mixtures

Keep away from alkalis, oxidising substances, acids.

Control of the effects

Protect against external exposure, such as

High temperatures. UV-radiation/sunlight.

Consideration of other advice

Store in a well-ventilated place. Keep container tightly closed.

- packaging compatibilities

Only packagings which are approved (e.g. acc. to the Dangerous Goods Regulations) may be used.

**7.3 Specific end use(s)**

There is no additional information.

**SECTION 8: Exposure controls/personal protection****8.1 Control parameters**

**National limit values**

No information available.

**Relevant DNELs/DMELs/PNECs and other threshold levels**

No data available.

**8.2 Exposure controls**

Appropriate engineering controls

General ventilation.

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### Individual protection measures (personal protective equipment)

#### Eye/face protection



Use safety goggle with side protection

#### Skin protection



Chemical protective clothing.

#### - hand protection



Wear suitable gloves. Check leak-tightness/impermeability prior to use. 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 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.

#### - type of material

Nitrile rubber

#### - material thickness

Use gloves with a minimum material thickness:  $\geq 0,38$  mm.

#### - breakthrough time of the glove material

Use gloves with a minimum breakthrough time of the glove material: >480 minutes (permeation: level 6).

#### - other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling. Provide eyewash stations and safety showers at the workplace.

### Respiratory protection

In case of inadequate ventilation wear respiratory protection. Observe the OSHA respirator regulations cited in 29 CFR 1910.134 and use NIOSH/MSHA approved respirators.

### Environmental exposure controls

Take appropriate precautions to avoid uncontrolled release into the environment. 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	colorless
Particle	not relevant (liquid)
Odor	characteristic

#### Other safety parameters

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pH (value)	7.5
Melting point/freezing point	not determined
Initial boiling point and boiling range	288 °C at 101.6 kPa calculated value, referring to a component of the mixture
Flash point	not determined
Evaporation rate	Not determined
Flammability (solid, gas)	not relevant, (fluid)
Explosive limits	LEL: UEL: not determined
Vapor pressure	not determined
Density	not determined
Vapor density	this information is not available
Solubility(ies)	not determined

- n-octanol/water (log KOW)	this information is not available
Auto-ignition temperature	not determined
Decomposition temperature	no data available
Viscosity	not determined
- kinematic viscosity	not determined
Explosive properties	none
Oxidizing properties	none

### 9.2 Other information

There is no additional information.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

This material is not reactive under normal ambient conditions.

### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

### 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.

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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.

- acute toxicity of components of the mixture

Acute toxicity estimate (ATE) of components of the mixture			
Name of substance	CAS No	Exposure route	ATE
Poly(oxyethylene) p-(1,1,3,3-tetramethylbutyl)phenyl ether	9002-93-1	oral	500 mg/kg

**Skin corrosion/irritation**

Causes skin irritation.

**Serious eye damage/eye irritation**

Causes serious eye damage.

**Respiratory or skin sensitization**

Shall not be classified as a respiratory or skin sensitizer.

**Germ cell mutagenicity**

Shall not be classified as germ cell mutagenic.

**Carcinogenicity**

Shall not be classified as carcinogenic.

**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.

**11.2 Information on other hazards****Endocrine disrupting properties**

Does not contain an endocrine disruptor (EDC) in a concentration of  $\geq 0,1\%$ .

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**SECTION 12: Ecological information****12.1 Toxicity**

Harmful to aquatic life with long lasting effects.

**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**

Does not contain any substances that are assessed to be PBT or vPvB  $\geq 0.1\%$ .

**12.6 Endocrine disrupting properties**

Does not contain 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.

Waste treatment of containers/packages

Only packagings which are approved (e.g. acc. to DOT) may be used. 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****14.1 UN number**

not subject to transport regulations

**14.2 UN proper shipping name**

not relevant

**14.3 Transport hazard class(es)**

not assigned

**14.4 Packing group**

not assigned

**14.5 Environmental hazards**

non-environmentally hazardous acc. to the dangerous goods regulations

**14.6 Special precautions for user**

There is no additional information.

**14.7 Transport in bulk according to IMO instruments**

No data available.

**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.

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### 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)

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

all ingredients are listed as "ACTIVE"

##### 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)

none of the ingredients are listed

##### 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

- Cleaning Product Right to Know Act Substance List (CA-RTK)

Name acc. to inventory	CAS No	Functionality	Authoritative Lists
4-tert-Octylphenol ethoxylates			EC EDs

- Toxic or Hazardous Substance List (MA-TURA)

none of the ingredients are listed

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

none of the ingredients are listed

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

#### NPCA-HMIS® III

Hazardous Materials Identification System. American Coatings Association.

Category	Rating	Description
Chronic	/	none
Health	3	major injury likely unless prompt action is taken and medical treatment is given
Flammability	1	material that must be preheated before ignition can occur
Physical hazard	0	material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive
Personal protection	-	

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### 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	1	material that must be preheated 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
Special hazard		

### 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this mixture by the supplier.

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

#### Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)
1.1		Article number: PICO-000090 F

#### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
49 CFR US DOT	49 CFR U.S. Department of Transportation
Acute Tox.	Acute toxicity
ATE	Acute Toxicity Estimate
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
DGR	Dangerous Goods Regulations (see IATA/DGR)
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
DOT	Department of Transportation (USA)
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
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
LEL	Lower explosion limit (LEL)
NPCA-HMIS® III	National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic



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Abbr.	Descriptions of used abbreviations
PNEC	Predicted No-Effect Concentration
RTECS	Registry of Toxic Effects of Chemical Substances (database of NIOSH with toxicological information)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
UEL	Upper explosion limit (UEL)
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
H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.

**Disclaimer**

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

## Antibody Resin

Version number: 1.0

Date of compilation: 2023-01-02

### SECTION 1: Identification

#### 1.1 Product identifier

Trade name

**Antibody Resin**

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

Relevant identified uses

Professional use

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

Actome GmbH  
Georges-Köhler-Allee 103  
79110 Freiburg  
Germany

Telephone: +49 761 21630500  
e-mail: [info@actome.de](mailto:info@actome.de)  
Website: <https://www.actome.de/>

e-mail (competent person)

[info@actome.de](mailto:info@actome.de)

#### 1.4 Emergency telephone number

Emergency information service

+49 761 21630500  
This number is only available during the following office hours: Mon-Fri 09:00 - 17:00

### 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
B.6	flammable liquid	2	Flam. Liq. 2	H225

For full text of H-phrases: see SECTION 16

The most important adverse physicochemical, human health and environmental effects

The product is combustible and can be ignited by potential ignition sources.

#### 2.2 Label elements

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

- signal word

Danger

- pictograms

GHS02



- hazard statements

H225

Highly flammable liquid and vapor.

- precautionary statements

P210

Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P233

Keep container tightly closed.

P240

Ground/bond container and receiving equipment.

P241

Use explosion-proof electrical/ventilating/lighting equipment.

P242

Use only non-sparking tools.

P243

Take precautionary measures against static discharge.

P280

Wear protective gloves/eye protection/face protection.

P303+P361+P353

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P370+P378

In case of fire: Use sand, carbon dioxide or powder extinguisher to extinguish.

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### - precautionary statements

P403+P235

Store in a well-ventilated place. Keep cool.

P501

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

### 2.3 Other hazards

There is no additional information.

#### Results of PBT and vPvB assessment

Does not contain any substances that are assessed to be PBT or vPvB  $\geq 0.1\%$ .

#### Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of  $\geq 0.1\%$ .




## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Not relevant (mixture)

### 3.2 Mixtures

The product does not contain (other) ingredients which are classified according to present knowledge of the supplier and contribute to the classification of the product and hence require reporting in this section.

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes
Ethanol	CAS No 64-17-5	7 – < 10	Eye Irrit. 2 / H319 Carc. 1A / H350 Flam. Liq. 2 / H225	  	IARC: 1

#### Notes

IARC: 1: IARC group 1: carcinogenic to humans (International Agency for Research on Cancer)

### Remarks

All the percentages given are percentages by weight unless stated otherwise. For full text of H-phrases: see SECTION 16.

## 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. In case of unconsciousness place person in the recovery position. Never give anything by mouth. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following inhalation

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

#### Following skin contact

Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.

#### Following eye contact

Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

#### Following ingestion

Rinse mouth with water (only if the person is conscious).

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

Symptoms and effects are not known to date.

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

For specialist advice physicians should contact the poison centre.

## SECTION 5: Fire-fighting measures

### 5.1 Extinguishing media

Suitable extinguishing media

Water spray; Dry extinguishing powder; Carbon dioxide (CO<sub>2</sub>);  
Coordinate firefighting measures to the fire surroundings.

Unsuitable extinguishing media

Water jet.

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

In case of insufficient ventilation and/or in use, may form flammable/explosive vapor-air mixture. Solvent vapors are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures.

Hazardous combustion products

During fire hazardous fumes/smoke could be produced.

### 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.

Special protective equipment for firefighters

Self-contained breathing apparatus (SCBA). Standard protective clothing for firefighters.

## SECTION 6: Accidental release measures

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

For non-emergency personnel

Remove persons to safety. Ventilate affected area.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases. Wear personal protective equipment/face protection.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

### 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).

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.

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**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. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge. Use only in well-ventilated areas. Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools.

- specific notes/details

Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapors are heavier than air, spread along floors and form explosive mixtures with air.

## 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

Keep container tightly closed and in a well-ventilated place. Use local and general ventilation. Keep cool. Protect from sunlight.

- flammability hazards

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge.

- incompatible substances or mixtures

Keep away from alkalis, oxidising substances, acids.

## Control of the effects

## Protect against external exposure, such as

High temperatures. UV-radiation/sunlight.

## Consideration of other advice

Store in a well-ventilated place. Keep container tightly closed.

- ventilation requirements

Use local and general ventilation. Ground/bond container and receiving equipment.

- packaging compatibilities

Keep only in original container.

**7.3 Specific end use(s)**

There is no additional information.

**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****National limit values**

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Occupational exposure limit values (Workplace Exposure Limits)									
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Notation	Source
US	ethanol	64-17-5	TLV®			1,000			ACGIH® 2022
US	ethyl alcohol (ethanol)	64-17-5	PEL	1,000	1,900				29 CFR 1910.1000

### Notation

#### 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)

### Relevant DNELs/DMELs/PNECs and other threshold levels

Relevant DNELs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Ethanol	64-17-5	DNEL	1,900 mg/m³	human, inhalatory	worker (industry)	acute - local effects
Ethanol	64-17-5	DNEL	950 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
Ethanol	64-17-5	DNEL	343 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Ethanol	64-17-5	DNEL	114 mg/m³	human, inhalatory	consumer (private households)	chronic - systemic effects
Ethanol	64-17-5	DNEL	206 mg/kg bw/day	human, dermal	consumer (private households)	chronic - systemic effects
Ethanol	64-17-5	DNEL	87 mg/kg bw/day	human, oral	consumer (private households)	chronic - systemic effects

Relevant PNECs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
Ethanol	64-17-5	PNEC	2.75 mg/l	aquatic organisms	water	intermittent release
Ethanol	64-17-5	PNEC	0.96 mg/l	aquatic organisms	freshwater	short-term (single instance)
Ethanol	64-17-5	PNEC	0.79 mg/l	aquatic organisms	marine water	short-term (single instance)
Ethanol	64-17-5	PNEC	580 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Ethanol	64-17-5	PNEC	3.6 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Ethanol	64-17-5	PNEC	2.9 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Ethanol	64-17-5	PNEC	0.63 mg/kg	terrestrial organisms	soil	short-term (single instance)

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### 8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection



Use safety goggle with side protection

Skin protection



Chemical protective clothing.

- hand protection



Wear suitable gloves. Check leak-tightness/impermeability prior to use. 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 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.

- type of material

Nitrile rubber

- material thickness

Use gloves with a minimum material thickness:  $\geq 0,38$  mm.

- breakthrough time of the glove material

Use gloves with a minimum breakthrough time of the glove material: >480 minutes (permeation: level 6).

- other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling. Provide eyewash stations and safety showers at the workplace.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. Observe the OSHA respirator regulations cited in 29 CFR 1910.134 and use NIOSH/MSHA approved respirators.

Environmental exposure controls

Take appropriate precautions to avoid uncontrolled release into the environment. 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)
Odor	characteristic

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### Other safety parameters

pH (value)	not determined
Melting point/freezing point	-97.8 °C calculated value, referring to a component of the mixture
Initial boiling point and boiling range	64.7 °C at 1,013 hPa calculated value, referring to a component of the mixture
Flash point	9.7 °C at 1,013 hPa calculated value, referring to a component of the mixture
Evaporation rate	not determined
Flammability (solid, gas)	not relevant, (fluid)

Explosive limits LEL: 2.5 vol% / UEL: 13.5 vol%  
calculated value, referring to a component of the mixture

- upper explosion limit (UEL)	13.5 vol%
Vapor pressure	169.3 hPa at 25 °C calculated value, referring to a component of the mixture
Density	not determined
Vapor density	this information is not available
Solubility(ies)	not determined

- n-octanol/water (log KOW)	this information is not available
Auto-ignition temperature	455 °C (auto-ignition temperature (liquids and gases)) calculated value, referring to a component of the mixture
Decomposition temperature	no data available

Viscosity not determined

- kinematic viscosity	not determined
Explosive properties	none
Oxidizing properties	none

### 9.2 Other information

There is no additional information.

Temperature class (USA, acc. to NEC 500)	T1 (maximum permissible surface temperature on the equipment: 450 °C)
------------------------------------------	-----------------------------------------------------------------------



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### SECTION 10: Stability and reactivity

#### 10.1 Reactivity

The mixture contains reactive substance(s). Risk of ignition.

If heated:

Risk of ignition.

#### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

#### 10.3 Possibility of hazardous reactions

No known hazardous reactions.

#### 10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Hints to prevent fire or explosion

Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

#### 10.5 Incompatible materials

Oxidizers.

#### 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.

- acute toxicity of components of the mixture

Acute toxicity of components of the mixture					
Name of substance	CAS No	Exposure route	Endpoint	Value	Species
Ethanol	64-17-5	oral	LD50	10,470 mg/kg	rat
Ethanol	64-17-5	inhalation: vapor	LC50	124.7 mg/l/4h	rat

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

Shall not be classified as a respiratory or skin sensitizer.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

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### Carcinogenicity

Shall not be classified as carcinogenic.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans			
Name of substance	CAS No	Classification	Number
REACH REGISTERED (ANNEX VI+ incl H319): ethanol	64-17-5	1	

#### Legend

1 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.

## 11.2 Information on other hazards

### Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of  $\geq 0,1\%$ .

## SECTION 12: Ecological information

### 12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

Aquatic toxicity (acute) of components of the mixture					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Ethanol	64-17-5	LC50	15,400 mg/l	fish	96 h
Ethanol	64-17-5	EC50	12,700 mg/l	fish	96 h
Ethanol	64-17-5	ErC50	22,000 mg/l	algae	96 h

Aquatic toxicity (chronic) of components of the mixture					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Ethanol	64-17-5	EC50	22.6 g/l	algae	10 d
Ethanol	64-17-5	LC50	1,806 mg/l	aquatic invertebrates	10 d
Ethanol	64-17-5	ErC50	675 mg/l	algae	4 d
Ethanol	64-17-5	NOEC	250 mg/l	fish	120 h
Ethanol	64-17-5	growth rate (Er-Cx) 10%	86 mg/l	algae	4 d

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**12.2 Persistence and degradability**

## Biodegradation

The relevant substances of the mixture are readily biodegradable.

**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**

Does not contain any substances that are assessed to be PBT or vPvB  $\geq 0.1\%$ .

**12.6 Endocrine disrupting properties**

Does not contain 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**

## Waste treatment-relevant information

Solvent reclamation/regeneration.

## Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment.

## 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****14.1 UN number**

DOT UN 1170

IMDG-Code UN 1170

ICAO-TI UN 1170

**14.2 UN proper shipping name**

DOT Ethanol solutions

IMDG-Code ETHANOL SOLUTIONS

ICAO-TI Ethanol solutions

**14.3 Transport hazard class(es)**

DOT 3

IMDG-Code 3

ICAO-TI 3

**14.4 Packing group**

DOT II

IMDG-Code II

ICAO-TI II

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### 14.5 Environmental hazards

non-environmentally hazardous acc. to the dangerous goods regulations

### 14.6 Special precautions for user

There is no additional information.

### 14.7 Transport in bulk according to IMO instruments

No data available.

#### Information for each of the UN Model Regulations

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

Particulars in the shipper's declaration

UN1170, Ethanol solutions, 3, II

Danger label(s)

3



Special provisions (SP)

24, IB2, T4, TP1

ERG No

127

##### International Maritime Dangerous Goods Code (IMDG) - additional information

Marine pollutant

-

Danger label(s)

3



Special provisions (SP)

144

Excepted quantities (EQ)

E2

Limited quantities (LQ)

1 L

EmS

F-E, S-D

Stowage category

A

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

Danger label(s)

3



Special provisions (SP)

A3, A58, A180

Excepted quantities (EQ)

E2

Limited quantities (LQ)

1 L

## 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 as "ACTIVE"

##### 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)

none of the ingredients are listed

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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

- Cleaning Product Right to Know Act Substance List (CA-RTK)  
none of the ingredients are listed
- Toxic or Hazardous Substance List (MA-TURA)  
none of the ingredients are listed
- Hazardous Substances List (MN-ERTK)

Name acc. to inventory	CAS No	References	Remarks
Ethyl alcohol (Ethanol)	64-17-5	A, O	

#### Legend

- 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
- 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 acc. to inventory	CAS No	Remarks	Classifications
ethyl alcohol (ethanol)	64-17-5		CA MU TE F3

#### Legend

- CA Carcinogenic
- F3 Flammable - Third Degree
- MU Mutagenic
- TE Teratogenic

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

Name acc. to inventory	CAS No	Classification
ETHANOL	64-17-5	

- Hazardous Substance List (RI-RTK)

Name acc. to inventory	CAS No	References
ethyl alcohol	64-17-5	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 acc. to inventory	CAS No	Remarks	Type of the toxicity
ethanol (ethyl alcohol)	64-17-5	in alcoholic beverages	developmental

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

#### NPCA-HMIS® III

Hazardous Materials Identification System. American Coatings Association.

Category	Rating	Description
Chronic	*	chronic (long-term) health effects may result from repeated overexposure
Health	0	no significant risk to health
Flammability	3	material that can be ignited under almost all ambient temperature conditions
Physical hazard	0	material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive
Personal protection	-	

#### 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	3	material that can be ignited under almost all ambient temperature conditions
Health	0	material that, under emergency conditions, would offer no hazard beyond that of ordinary combustible material
Instability	0	material that is normally stable, even under fire conditions
Special hazard		

### 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this mixture by the supplier.

## 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®: <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>
Carc.	Carcinogenicity
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
DGR	Dangerous Goods Regulations (see IATA/DGR)
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
DOT	Department of Transportation (USA)
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

# Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

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Abbr.	Descriptions of used abbreviations
EmS	Emergency Schedule
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
ERG No	Emergency Response Guidebook - Number
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
Flam. Liq.	Flammable liquid
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
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
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	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
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
LEL	Lower explosion limit (LEL)
NFPA®	National Fire Protection Association (United States)
NOEC	No Observed Effect Concentration
NPCA-HMIS® III	National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic
PEL	Permissible exposure limit
PNEC	Predicted No-Effect Concentration
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
UEL	Upper explosion limit (UEL)
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).

**Antibody Resin**

Version number: 1.0

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**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
H225	Highly flammable liquid and vapor.
H319	Causes serious eye irritation.
H350	May cause cancer.

**Disclaimer**

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.