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## **1** Identification

- · Product identifier
- Trade name: <u>ICP mixed Stock Standard 10 ppm</u> 10.0 each: Al, Sb, Ba, Bi, B, K, P, Ag, Na, W, Zr
- · Article number: GIN011
- Details of the supplier of the safety data sheet
  Manufacturer/Supplier: Aqua Solutions, Inc.
  6913 Highway 225 DEER PARK, TX 77536

USA 800-256-2586

- Information department: Technical Coordinator Sherman Nelson shermann@aquasolutions.org • Emergency telephone number:
- *Chemtrec:* 800-424-9300 *Canutec:* 613-996-6666

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

· Classification of the substance or mixture



Skin Corrosion 1A H314 Causes severe skin burns and eye damage.

*Eye Damage 1* H318 Causes serious eye damage.

· Label elements

• *GHS label elements* The product is classified and labeled according to the Globally Harmonized System (GHS). • *Hazard pictograms* 



- · Signal word Danger
- · Hazard-determining components of labeling:
- Nitric Acid
- · Hazard statements
- Causes severe skin burns and eye damage.
- · Precautionary statements
- Do not breathe dusts or mists.
- Wash thoroughly after handling.
- Wear protective gloves/protective clothing/eye protection/face protection.
- If swallowed: Rinse mouth. Do NOT induce vomiting.
- If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor.

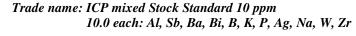
Specific treatment (see on this label).

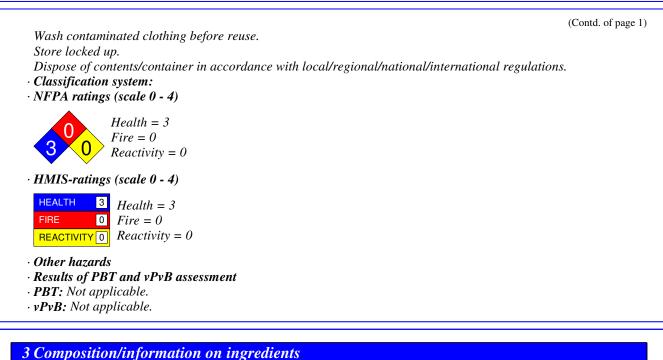
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· Chemical characterization: Mixtures

• **Description:** Mixture of the substances listed below with nonhazardous additions.

Dangerous comp	onents:	
CAS: 7697-37-2	Nitric Acid	5.0%
· Table of Nonhaza	urdous Ingredients	
CAS: 7732-18-5	Water	94.949%
CAS: 7784-27-2	Aluminum Nitrate	0.014%
CAS: 7664-39-3	Hydrofluoric Acid 49-51% Aqueous Solution	<0.01%
CAS: 10043-35-3	boric acid	0.006%
CAS: 7631-99-4	Sodium Nitrate	0.004%
CAS: 7722-76-1	Ammonium Phosphate Monobasic	0.004%
CAS: 7757-79-1	Potassium Nitrate	0.003%
CAS: 7761-88-8	Silver Nitrate	0.002%
CAS: 10022-31-8	Barium Nitrate	0.002%
CAS: 11120-25-5	Ammonium Paratungstate	0.002%
CAS: 13826-66-9	zirconium oxynitrate	0.002%
CAS: 7440-36-0	Antimony Metal	0.001%
CAS: 7440-69-9	bismuth	0.001%

# 4 First-aid measures

· Description of first aid measures

- · General information: Immediately remove any clothing soiled by the product.
- After inhalation: In case of unconsciousness place patient stably in side position for transportation.
- · After skin contact: Immediately wash with water and soap and rinse thoroughly.

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<sup>•</sup> US

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(Contd. of page 2)

- After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
- After swallowing: Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- Information for doctor:
- *Most important symptoms and effects, both acute and delayed* No further relevant information available.
- · Indication of any immediate medical attention and special treatment needed No further relevant information available.

#### **5** *Fire-fighting measures*

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

## 6 Accidental release measures

Wear protective eq	quipment. Keep unprotected persons away.	
Environmental pr		
Dilute with plenty		
	ter sewers/ surface or ground water.	
	erial for containment and cleaning up:	
	l-binding material (sand, diatomite, acid binders, universal binders, sawdust).	
Use neutralizing a	gent. ated material as waste according to section 13.	
Ensure adequate v		
<b>Reference to other</b>		
	nformation on safe handling.	
	information on personal protection equipment.	
	disposal information.	
<b>Protective Action</b>	Criteria for Chemicals	
PAC-1:	5	
	Nitric Acid	0.16 ppm
CAS: 7697-37-2	•	0.16 ppm 83 mg/m <sup>3</sup>
CAS: 7697-37-2 CAS: 7784-27-2	Nitric Acid	
CAS: 7697-37-2 CAS: 7784-27-2	Nitric Acid Aluminum Nitrate Hydrofluoric Acid 49-51% Aqueous Solution	83 mg/m <sup>3</sup>
CAS: 7697-37-2 CAS: 7784-27-2 CAS: 7664-39-3 CAS: 10043-35-3	Nitric Acid Aluminum Nitrate Hydrofluoric Acid 49-51% Aqueous Solution	83 mg/m <sup>3</sup> 1.0 ppm
CAS: 7697-37-2 CAS: 7784-27-2 CAS: 7664-39-3 CAS: 10043-35-3 CAS: 7631-99-4	Nitric Acid Aluminum Nitrate Hydrofluoric Acid 49-51% Aqueous Solution boric acid	83 mg/m <sup>3</sup> 1.0 ppm 6 mg/m <sup>3</sup>
CAS: 7697-37-2 CAS: 7784-27-2 CAS: 7664-39-3 CAS: 10043-35-3 CAS: 7631-99-4 CAS: 7722-76-1	Nitric Acid Aluminum Nitrate Hydrofluoric Acid 49-51% Aqueous Solution boric acid Sodium Nitrate	83 mg/m <sup>3</sup> 1.0 ppm 6 mg/m <sup>3</sup> 4.1 mg/m <sup>3</sup>
CAS: 7697-37-2 CAS: 7784-27-2 CAS: 7664-39-3 CAS: 10043-35-3 CAS: 7631-99-4 CAS: 7722-76-1	Nitric Acid Aluminum Nitrate Hydrofluoric Acid 49-51% Aqueous Solution boric acid Sodium Nitrate Ammonium Phosphate Monobasic	83 mg/m <sup>3</sup> 1.0 ppm 6 mg/m <sup>3</sup> 4.1 mg/m <sup>3</sup> 17 mg/m <sup>3</sup> 9 mg/m <sup>3</sup>
CAS: 7697-37-2 CAS: 7784-27-2 CAS: 7664-39-3 CAS: 10043-35-3 CAS: 7631-99-4 CAS: 7722-76-1 CAS: 7757-79-1	Nitric Acid Aluminum Nitrate Hydrofluoric Acid 49-51% Aqueous Solution boric acid Sodium Nitrate Ammonium Phosphate Monobasic Potassium Nitrate Silver Nitrate	83 mg/m <sup>3</sup> 1.0 ppm 6 mg/m <sup>3</sup> 4.1 mg/m <sup>3</sup> 17 mg/m <sup>3</sup> 9 mg/m <sup>3</sup>
CAS: 7697-37-2 CAS: 7784-27-2 CAS: 7664-39-3 CAS: 10043-35-3 CAS: 7631-99-4 CAS: 7722-76-1 CAS: 7757-79-1 CAS: 7761-88-8 CAS: 10022-31-8	Nitric Acid Aluminum Nitrate Hydrofluoric Acid 49-51% Aqueous Solution boric acid Sodium Nitrate Ammonium Phosphate Monobasic Potassium Nitrate Silver Nitrate	83 mg/m³           1.0 ppm           6 mg/m³           4.1 mg/m³           17 mg/m³           9 mg/m³           0.047 mg/m
CAS: 7697-37-2 CAS: 7784-27-2 CAS: 7664-39-3 CAS: 10043-35-3 CAS: 7631-99-4 CAS: 7722-76-1 CAS: 7757-79-1 CAS: 7761-88-8 CAS: 10022-31-8 CAS: 11120-25-5	Nitric Acid Aluminum Nitrate Hydrofluoric Acid 49-51% Aqueous Solution boric acid Sodium Nitrate Ammonium Phosphate Monobasic Potassium Nitrate Silver Nitrate Barium Nitrate	83 mg/m³           1.0 ppm           6 mg/m³           4.1 mg/m³           17 mg/m³           9 mg/m³           0.047 mg/m³           2.9 mg/m³

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### Trade name: ICP mixed Stock Standard 10 ppm 10.0 each: Al, Sb, Ba, Bi, B, K, P, Ag, Na, W, Zr

CAS: 7440-69-9	bismuth	(Contd. of page 15 mg/m <sup>3</sup>
PAC-2:		
CAS: 7697-37-2	Nitric Acid	24 ppm
CAS: 7784-27-2	Aluminum Nitrate	920 mg/m
CAS: 7664-39-3	Hydrofluoric Acid 49-51% Aqueous Solution	24 ppm
CAS: 10043-35-3	boric acid	23 mg/m <sup>3</sup>
CAS: 7631-99-4	Sodium Nitrate	45 mg/m <sup>3</sup>
CAS: 7722-76-1	Ammonium Phosphate Monobasic	190 mg/m
CAS: 7757-79-1	Potassium Nitrate	100 mg/m
CAS: 7761-88-8	Silver Nitrate	0.9 mg/m <sup>2</sup>
CAS: 10022-31-8	Barium Nitrate	350 mg/m
CAS: 11120-25-5	Ammonium Paratungstate	45 mg/m <sup>3</sup>
CAS: 13826-66-9	zirconium oxynitrate	220 mg/m
CAS: 7440-36-0	Antimony Metal	13 mg/m <sup>3</sup>
CAS: 7440-69-9	bismuth	170 mg/m
PAC-3:		· · · · · · · · · · · · · · · · · · ·
CAS: 7697-37-2	Nitric Acid	92 ppm
CAS: 7784-27-2	Aluminum Nitrate	5,500 mg/m
CAS: 7664-39-3	Hydrofluoric Acid 49-51% Aqueous Solution	44 ppm
CAS: 10043-35-3	boric acid	830 mg/m <sup>3</sup>
CAS: 7631-99-4	Sodium Nitrate	270 mg/m <sup>3</sup>
CAS: 7722-76-1	Ammonium Phosphate Monobasic	1,100 mg/m
CAS: 7757-79-1	Potassium Nitrate	600 mg/m <sup>3</sup>
CAS: 7761-88-8	Silver Nitrate	$5.4 mg/m^3$
CAS: 10022-31-8	Barium Nitrate	2,100 mg/m
CAS: 11120-25-5	Ammonium Paratungstate	270 mg/m <sup>3</sup>
CAS: 13826-66-9	zirconium oxynitrate	1,300 mg/m
CAS: 7440-36-0	Antimony Metal	80 mg/m <sup>3</sup>
CAS: 7440-69-9	bismuth	990 mg/m <sup>3</sup>

# 7 Handling and storage

· Handling:

\*

· Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

· Information about protection against explosions and fires: Keep respiratory protective device available.

· Conditions for safe storage, including any incompatibilities

· Storage:

• Requirements to be met by storerooms and receptacles: No special requirements.

• Information about storage in one common storage facility: Not required.

• Further information about storage conditions: Keep receptacle tightly sealed.

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<sup>-</sup> US

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# Safety Data Sheet acc. to OSHA HCS

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Trade name: ICP mixed Stock Standard 10 ppm 10.0 each: Al, Sb, Ba, Bi, B, K, P, Ag, Na, W, Zr

• Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

· Additional information about design of technical systems: No further data; see section 7.

· Control parameters

· Components with limit values that require monitoring at the workplace:

CAS: 7697-37-2 Nitric Acid

PEL Long-term value: 5 mg/m<sup>3</sup>, 2 ppm

- REL Short-term value: 10 mg/m<sup>3</sup>, 4 ppm
- Long-term value: 5 mg/m<sup>3</sup>, 2 ppm
- TLV Short-term value: (4) NIC-0.025\* ppm Long-term value: (2) ppm \*inh. fraction + vapor, NIC-A4

· Additional information: The lists that were valid during the creation were used as basis.

· Exposure controls

- · Personal protective equipment:
- General protective and hygienic measures: Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Avoid contact with the eyes. Avoid contact with the eyes and skin.
- Breathing equipment:

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

• Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation  $\cdot$  **Material of gloves** 

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

· Penetration time of glove material

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

• Eye protection:



Tightly sealed goggles

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Trade name: ICP mixed Stock Standard 10 ppm 10.0 each: Al, Sb, Ba, Bi, B, K, P, Ag, Na, W, Zr

· Body protection: Protective work clothing

**9** Physical and chemical properties · Information on basic physical and chemical properties · General Information · Appearance: Form: Liquid Color: Clear Odorless · Odor: Not determined. · Odor threshold: <2  $\cdot$  *pH-value at 20* °*C* (68 °*F*): · Change in condition Undetermined. Melting point/Melting range: 83 °C (181.4 °F) **Boiling point/Boiling range:** · Flash point: Not applicable. · Flammability (solid, gaseous): Not applicable. · Decomposition temperature: Not determined. · Ignition temperature: Product is not selfigniting. · Danger of explosion: Product does not present an explosion hazard. · Explosion limits: Lower: Not determined. Upper: Not determined. 23 hPa (17.3 mm Hg) · Vapor pressure at 20 °C (68 °F): 1.02565 g/cm<sup>3</sup> (8.55905 lbs/gal) • Density at 20 °C (68 °F): · Relative density Not determined. · Vapor density Not determined. Not determined. · Evaporation rate · Solubility in / Miscibility with Water: Fully miscible. · Partition coefficient (n-octanol/water): Not determined. · Viscosity: Dynamic: Not determined. Kinematic: Not determined. · Solvent content: 94.9 % Water: **VOC** content: 0.00 % 0.0 g/l / 0.00 lb/gal 0.0 % Solids content: · Other information No further relevant information available. US

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Trade name: ICP mixed Stock Standard 10 ppm 10.0 each: Al, Sb, Ba, Bi, B, K, P, Ag, Na, W, Zr

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## **10 Stability and reactivity**

- · Reactivity No further relevant information available.
- · Chemical stability
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- · Possibility of hazardous reactions No dangerous reactions known.
- · Conditions to avoid No further relevant information available.
- · Incompatible materials: No further relevant information available.
- · Hazardous decomposition products: No dangerous decomposition products known.

#### **11 Toxicological information**

- · Information on toxicological effects
- Acute toxicity:

· LD/LC50 values that are relevant for classification:

ATE (Acute Toxicity Estimate)

Inhalative LC50/4h 60 mg/l

- · Primary irritant effect:
- on the skin: Strong caustic effect on skin and mucous membranes.
- $\cdot$  on the eye:
- Strong caustic effect.

Strong irritant with the danger of severe eye injury.

- · Sensitization: No sensitizing effects known.
- · Additional toxicological information:

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

Irritant

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

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

· NTP (National Toxicology Program)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

# **12** Ecological information

· Toxicity

- · Aquatic toxicity: No further relevant information available.
- *Persistence and degradability* No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- · Mobility in soil No further relevant information available.
- · Additional ecological information:

· General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water

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Trade name: ICP mixed Stock Standard 10 ppm 10.0 each: Al, Sb, Ba, Bi, B, K, P, Ag, Na, W, Zr

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Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. Must not reach bodies of water or drainage ditch undiluted or unneutralized. Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-

value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

• Results of PBT and vPvB assessment

• *PBT:* Not applicable.

• **vPvB:** Not applicable.

· Other adverse effects No further relevant information available.

## **13 Disposal considerations**

· Waste treatment methods

· Recommendation:

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

- · Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.
- · Recommended cleansing agent: Water, if necessary with cleansing agents.

# 14 Transport information

UN-Number	UN3264
DOT, IMDG, IATA	UN3204
· UN proper shipping name	
DOT	Corrosive liquid, acidic, inorganic, n.o.s. (Nitric Acid)
IMDG, IATA	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Nitri
	Acid)
Transport hazard class(es)	
DOT	
CORROSIVE 8	
Class	8 Corrosive substances
Label	8
IMDG, IATA	
Class	8 Corrosive substances
Label	8
Packing group	
DOT, IMDG, IATA	111
Environmental hazards:	Not applicable.
	(Contd. on page

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	(Contd. of page
· Special precautions for user	Warning: Corrosive substances
· Hazard identification number (Kemler co	ode): 80
· EMS Number:	F- $A$ , $S$ - $B$
· Segregation groups	(SGG1) Acids
· Stowage Category	В
· Stowage Code	SW2 Clear of living quarters.
• Transport in bulk according to Annex II	of
MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· DOT	
• Quantity limitations	On passenger aircraft/rail: 1 L
	On cargo aircraft only: 30 L
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities ( $\widetilde{EQ}$ )	Code: E2
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S
~	(NITRIC ACID), 8, III

# **15 Regulatory information**

• Safety, health and environmental regulations/legislation specific for the substance or mixture No further relevant information available.

· Sara

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CAS: 7697-37-2	Nitric Acid	
CAS: 7664-39-3	Hydrofluoric Acid 49-51% Aqueous Solution	
Section 313 (Spec	ific toxic chemical listings):	
CAS: 7697-37-2	Nitric Acid	
CAS: 7784-27-2	Aluminum Nitrate	
CAS: 7664-39-3	Hydrofluoric Acid 49-51% Aqueous Solution	
CAS: 7757-79-1	Potassium Nitrate	
CAS: 7761-88-8	Silver Nitrate	
CAS: 10022-31-8	Barium Nitrate	
CAS: 7440-36-0	Antimony Metal	
TSCA (Toxic Sub	stances Control Act):	
Water		ACTIVI
Nitric Acid		ACTIVI
Hydrofluoric Acid 49-51% Aqueous Solution		ACTIVI
boric acid		ACTIVI
Sodium Nitrate		ACTIVI
Ammonium Phosp	hate Monobasic	ACTIVI

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Potassium Nitrate	ACTIVE
Silver Nitrate	ACTIVE
Barium Nitrate	ACTIVE
Ammonium Paratungstate	ACTIVE
zirconium oxynitrate	ACTIVE
Antimony Metal	ACTIVE
bismuth	ACTIVE
· Hazardous Air Pollutants	
CAS: 7664-39-3 Hydrofluoric Acid 49-51% Aqueous Solution	
· Proposition 65	
· Chemicals known to cause cancer:	
None of the ingredients is listed.	
· Chemicals known to cause reproductive toxicity for females:	
None of the ingredients is listed.	
· Chemicals known to cause reproductive toxicity for males:	
None of the ingredients is listed.	
· Chemicals known to cause developmental toxicity:	
None of the ingredients is listed.	

#### · Carcinogenic categories

· EPA (Environmental Protection Agency)		
CAS: 10043-35-3	boric acid	I (oral)
CAS: 10022-31-8	Barium Nitrate	D, CBD(inh), NL(oral)

· TLV (Threshold Limit Value)

CAS: 10043-35-3 boric acid

CAS: 10022-31-8 Barium Nitrate

 $\cdot$  NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

• *GHS label elements* The product is classified and labeled according to the Globally Harmonized System (GHS). • *Hazard pictograms* 



· Signal word Danger

Hazard-determining components of labeling: Nitric Acid
Hazard statements Causes severe skin burns and eye damage.
Precautionary statements Do not breathe dusts or mists.

Wash thoroughly after handling.

Wear protective gloves/protective clothing/eye protection/face protection. If swallowed: Rinse mouth. Do NOT induce vomiting.

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A4

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## Trade name: ICP mixed Stock Standard 10 ppm 10.0 each: Al, Sb, Ba, Bi, B, K, P, Ag, Na, W, Zr

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If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Specific treatment (see on this label). Wash contaminated clothing before reuse. Store locked up. Dispose of contents/container in accordance with local/regional/national/international regulations. • Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

## **16 Other information**

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

· Department issuing SDS: Environment protection department.

• Contact: Date of Prepar

Date of Preparation / Last Revision: • Date of preparation / last revision Revision 1.2, 06/04/2024: Reviewed SDS for accuracy. MH/STN Revision 0.0, 05-29-2024: Creation date for SDS. STN 06/04/2024

· Abbreviations and acronyms: IMDG: International Maritime Code for Dangerous Goods DOT: US Department of Transportation IATA: International Air Transport Association EINECS: European Inventory of Existing Commercial Chemical Substances ELINCS: European List of Notified Chemical Substances CAS: Chemical Abstracts Service (division of the American Chemical Society) NFPA: National Fire Protection Association (USA) HMIS: Hazardous Materials Identification System (USA) VOC: Volatile Organic Compounds (USA, EU) LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative NIOSH: National Institute for Occupational Safety OSHA: Occupational Safety & Health TLV: Threshold Limit Value PEL: Permissible Exposure Limit REL: Recommended Exposure Limit Skin Corrosion 1A: Skin corrosion/irritation - Category 1A Eye Damage 1: Serious eye damage/eye irritation - Category 1  $\cdot$  \* Data compared to the previous version altered.

- US