

Printing date 08/04/2022

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1 Identification	
· Product identifier	
· Trade name: <u>ICP-AM-MISA6</u>	
· Article number: ICP-AM-MISA6	
• Details of the supplier of the safety data sheet	
· Manufacturer/Supplier:	
High-Purity Standards	
7221 Investment Drive, North Charleston, SC 29418 United States	
Telephone: +1-843-767-7900	
Fax: +1-843-767-7906	
highpuritystandards.com	
Email: info@highpuritystandards.com	
· Information department: Product safety department	
· Emergency telephone number:	
INFOTRAC	
Emergency telephone numbers1-800-535-5053	
Other emergency telephone numbers 1-352-323-3500	

2 Hazard(s) identification

· Classification of the substance or mixture

GHS05 Corrosion

Met. Corr.1H290 May be corrosive to metals.Skin Corr. 1AH314 Causes severe skin burns and eye damage.Eye Dam.1H318 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* H290 May be corrosive to metals. H314 Causes severe skin burns and eye damage.

• **Precautionary statements** Keep only in original container.

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(Contd. of page 1) 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). Wash contaminated clothing before reuse. Absorb spillage to prevent material damage. Store locked up. Store in corrosive resistant container with a resistant inner liner. Dispose of contents/container in accordance with local/regional/national/international regulations. · Classification system: · NFPA ratings (scale 0 - 4) Health = 3Fire = 0Reactivity = 0· HMIS-ratings (scale 0 - 4) HEALTH 3 Health = 3FIRE 0 Fire = 0**REACTIVITY O** Reactivity = 0· Other hazards · Results of PBT and vPvB assessment · PBT: Not applicable. · vPvB: Not applicable.

3 Composition/information on ingredients

· Chemical characterization: Mixtures

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

· Dangerous	components:	
7697-37-2	nitric acid	2.0%
· Chemical ia	entification of the substance/preparation	
7732-18-5	water, distilled, conductivity or of similar purity	97.73%
471-34-1	calcium carbonate	0.01%
497-19-8	sodium carbonate	0.01%
513-77-9	barium carbonate	0.01%
534-17-8	caesium carbonate	0.01%
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554-13-2 lithium carbonate	0.01
584-09-8 rubidium carbonate	0.01
1344-59-8 Uranium Oxide U3O8	0.01
7429-90-5 aluminium	0.01
7439-89-6 iron	0.01
7439-92-1 lead	0.01
7439-95-4 magnesium	0.01
7439-96-5 manganese	0.01
7440-02-0 nickel	0.01
7440-22-4 silver	0.01
7440-28-0 thallium	0.01
7440-43-9 cadmium	0.01
7440-47-3 chromium	0.01
7440-48-4 cobalt	0.01
7440-50-8 copper	0.01
7440-55-3 gallium	0.01
7440-66-6 zinc	0.01
7440-74-6 indium	0.01
7722-76-1 Ammonium dihydrogenphosphate	0.01
7757-79-1 potassium nitrate	0.01
7803-55-6 Ammonium Vanadate	0.01
10042-76-9 strontium nitrate	0.01
10043-35-3 boric acid	0.01

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.
- · 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.*

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5 Fire-fighting measures

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

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures Mount respiratory protective device.
- Wear protective equipment. Keep unprotected persons away.
- Environmental precautions: Do not allow to enter sewers/ surface or ground water.
- \cdot Methods and material for containment and cleaning up:
- Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Use neutralizing agent.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

- · Reference to other sections
- See Section 7 for information on safe handling.
- See Section 8 for information on personal protection equipment.
- See Section 13 for disposal information.
- · Protective Action Criteria for Chemicals

7697-37-2 nitric acid	0.16 ppm
471-34-1 calcium carbonate	45 mg/m ³
497-19-8 sodium carbonate	7.6 mg/m ³
513-77-9 barium carbonate	2.2 mg/m ³
534-17-8 caesium carbonate	7 mg/m ³
554-13-2 lithium carbonate	3.1 mg/m ³
1344-59-8 Uranium Oxide U308	0.71 mg/m
7439-89-6 iron	3.2 mg/m ³
7439-92-1 lead	0.15 mg/n
7439-95-4 magnesium	18 mg/m ³
7439-96-5 manganese	3 mg/m ³
7440-02-0 nickel	4.5 mg/m ³
7440-22-4 silver	0.3 mg/m ³
7440-28-0 thallium	0.06 mg/n



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7722-76-1 Ammonium dihydrogenphosphate

7757-79-1 potassium nitrate

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7440-43-9		0.10 mg/m^3
	chromium	$1.5 mg/m^3$
7440-48-4		0.18 mg/m ³
7440-50-8	copper	3 mg/m ³
7440-55-3	gallium	30 mg/m ³
7440-66-6	zinc	6 mg/m ³
7440-74-6	indium	$0.3 mg/m^3$
7722-76-1	Ammonium dihydrogenphosphate	17 mg/m ³
7757-79-1	potassium nitrate	9 mg/m ³
7803-55-6	Ammonium Vanadate	0.01 mg/m ³
10042-76-9	strontium nitrate	5.7 mg/m ³
10043-35-3	boric acid	6 mg/m ³
· PAC-2:		I
7697-37-2	nitric acid	24 ppm
471-34-1	calcium carbonate	210 mg/m ³
497-19-8	sodium carbonate	83 mg/m ³
513-77-9	barium carbonate	270 mg/m ³
534-17-8	caesium carbonate	77 mg/m ³
554-13-2	lithium carbonate	34 mg/m ³
1344-59-8	Uranium Oxide	10 mg/m ³
	U3O8	
7439-89-6		$35 mg/m^3$
7439-92-1		120 mg/m ³
	magnesium	200 mg/m ³
7439-96-5	manganese	5 mg/m ³
7440-02-0	nickel	50 mg/m ³
7440-22-4	silver	170 mg/m ³
7440-28-0	thallium	3.3 mg/m ³
7440-43-9	cadmium	$0.76 \ mg/m^3$
7440-47-3	chromium	17 mg/m ³
7440-48-4	cobalt	$2 mg/m^3$
7440-50-8	copper	33 mg/m ³
7440-55-3	gallium	330 mg/m ³
7440-66-6	zinc	21 mg/m ³
7440-74-6	indium	3.3 mg/m ³

100 mg/m³ (Contd. on page 6)

190 mg/m³

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7803-55-6	Ammonium Vanadate	(Contd. of page 0.11 mg/n
	strontium nitrate	62 mg/m ³
10043-35-3		23 mg/m ³
PAC-3:		25 mg/m
	nitric acid	
		92 ppm
	calcium carbonate	1,300 mg/n
	sodium carbonate	500 mg/m ³
	barium carbonate	1,600 mg/n
	caesium carbonate	460 mg/m ³
	lithium carbonate	210 mg/m ³
1344-59-8	Uranium Oxide U308	50 mg/m ³
7439-89-6	iron	150 mg/m ³
7439-92-1	lead	700 mg/m ³
7439-95-4	magnesium	1,200 mg/n
7439-96-5	manganese	1,800 mg/n
7440-02-0	nickel	99 mg/m ³
7440-22-4	silver	990 mg/m ³
7440-28-0	thallium	20 mg/m ³
7440-43-9	cadmium	4.7 mg/m ³
7440-47-3	chromium	99 mg/m ³
7440-48-4	cobalt	20 mg/m ³
7440-50-8	copper	200 mg/m ³
7440-55-3	gallium	2,000 mg/n
7440-66-6	zinc	120 mg/m ³
7440-74-6	indium	20 mg/m ³
7722-76-1	Ammonium dihydrogenphosphate	1,100 mg/n
7757-79-1	potassium nitrate	600 mg/m ³
7803-55-6	Ammonium Vanadate	80 mg/m ³
10042-76-9	strontium nitrate	370 mg/m ³
10043-35-3	boric acid	830 mg/m ³

7 Handling and storage

- · Handling:
- · Precautions for safe handling
- *Ensure good ventilation/exhaustion at the workplace. Prevent formation of aerosols.*

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• 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.
- 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 item 7.

· Control parameters

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

7697-37-2 nitric acid

PEL Long-term value: 5 mg/m³, 2 ppm

- REL Short-term value: 10 mg/m³, 4 ppm Long-term value: 5 mg/m³, 2 ppm
- *TLV* Short-term value: 4 ppm Long-term value: 2 ppm

• 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 · *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.



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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

9 Physical and chemical properties

Appearance: Form:	Liquid
Form: Color:	Liquid According to product specification
Odor:	Characteristic
Odor threshold:	Not determined.
pH-value:	Not determined.
Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	100 °C (212 °F)
Flash point:	Not applicable.
Flammability (solid, gaseous):	Not applicable.
Decomposition temperature:	Not determined.
Auto igniting:	Product is not selfigniting.
Danger of explosion:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
Vapor pressure at 20 °C (68 °F):	23 hPa (17.3 mm Hg)
Density at 20 °C (68 °F):	2.7 g/cm³ (22.5315 lbs/gal)
Bulk density:	2,700 kg/m ³
Relative density	Not determined.
Vapor density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with	
Water:	Not miscible or difficult to mix.

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· Partition coefficient (n-octan	ol/water): Not determined.	
· Viscosity:		
Dynamic:	Not determined.	
Kinematic:	Not determined.	
· Solvent content:		
Water:	97.7 %	
VOC content:	0.00 %	
	0.0 g/l / 0.00 lb/gal	
Solids content:	0.2 %	
• Other information	No further relevant information available.	

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:
- · Primary irritant effect:
- on the skin: Strong caustic effect on skin and mucous membranes.
- 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)			
7439-92-1	lead		

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		(Contd. of page 9)
7440-02-0	nickel	2B
7440-43-9	cadmium	1
7440-47-3	chromium	3
7440-48-4	cobalt	2B
· NTP (Nati	onal Toxicology Program)	
7439-92-1	lead	R
7440-02-0	nickel	R
7440-43-9	cadmium	K
7440-48-4	cobalt	R
· OSHA-Ca	(Occupational Safety & Health Administration)	
7440-43-9	cadmium	

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

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.

- · 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.*

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UN-Number	
DOT, ADR, IMDG, IATA	UN3264
UN proper shipping name	
DOT	Corrosive liquid, acidic, inorganic, n.o.s. (Nitric acid)
ADR	3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O., (NITRIC ACID)
IMDG, IATA	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRI
	ACID)
Transport hazard class(es)	
DOT	
\wedge	
UT THE CORROSIVE	
8	
Class	8 Corrosive substances
Label	8
ADR	
\wedge	
8	
Class	8 (C1) Corrosive substances
Label	8
IMDG, IATA	
\wedge	
3	
Class	8 Corrosive substances
Label	8
Packing group	
DOT, ADR, IMDG, IATA	111
Environmental hazards:	Not applicable.
Special precautions for user	Warning: Corrosive substances
Hazard identification number (Kemler code)	
EMS Number: Segregation groups	F-A,S-B Acids
Stowage Category	A

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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: 5 L
	On cargo aircraft only: 60 L
ADR	
Excepted quantities (EQ)	Code: E1
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml
IMDG	
Limited quantities (LQ)	5L
Excepted quantities (EQ)	Code: El
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 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

7697-37-2	(extremely hazardous substances):	
	(Specific toxic chemical listings):	
7697-37-2	nitric acid	
513-77-9	barium carbonate	
554-13-2	lithium carbonate	
7429-90-5	aluminium	
7439-92-1	lead	
7439-96-5	manganese	
7440-02-0	nickel	
7440-22-4	silver	
7440-28-0	thallium	
7440-43-9	cadmium	
7440-47-3	chromium	

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7440-66-6 zinc

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		(Contd. of page 12
7440-48-4	cobalt	
7440-50-8	copper	
7440-66-6		
	potassium nitrate	
	Ammonium Vanadate	
10042-76-9	strontium nitrate	
· TSCA (Toxi	ic Substances Control Act):	
All compone	ents have the value ACTIVE.	
· Hazardous .	Air Pollutants	
7439-92-1	lead	
7439-96-5	manganese	
7440-48-4	cobalt	
· Proposition	65	
· Chemicals I	known to cause cancer:	
7439-92-1	lead	
7440-02-0	nickel	
7440-43-9	cadmium	
7440-48-4	cobalt	
· Chemicals I	known to cause reproductive toxicity for females:	
7439-92-1	lead	
· Chemicals I	known to cause reproductive toxicity for males:	
7439-92-1	lead	
7440-43-9	cadmium	
· Chemicals I	known to cause developmental toxicity:	
554-13-2	lithium carbonate	
7439-92-1	lead	
7440-43-9	cadmium	
· Carcinogen	ic categories	
	onmental Protection Agency)	
513-77-9	barium carbonate	D, CBD(inh), NL(oral)
7439-92-1	lead	B2
7420 06 5	manganese	D
/439-90-3		
7439-90-3	silver	D
		D B1
7440-22-4 7440-43-9		

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10043-35-3	boric acid	(Contd. of page 13) <i>I (oral)</i>
	old Limit Value)	
513-77-9	barium carbonate	A4
7429-90-5	aluminium	A4
7439-92-1	lead	A3
7440-02-0	nickel	A5
7440-43-9	cadmium	A2
7440-47-3	chromium	A4
7440-48-4	cobalt	A3
10043-35-3	boric acid	A4
· NIOSH-Ca	National Institute for Occupational Safety and Health)	
7440-02-0 r	ickel	

7440-43-9 cadmium

• *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 H290 May be corrosive to metals. H314 Causes severe skin burns and eye damage. · Precautionary statements Keep only in original container. 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). Wash contaminated clothing before reuse. Absorb spillage to prevent material damage. Store locked up. Store in corrosive resistant container with a resistant inner liner.



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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: High-Purity Standards Tel: 843-767-7900 Fax: 843-767-7906 · Date of preparation / last revision 08/04/2022 / -• Abbreviations and acronyms: ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road) 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) 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 Met. Corr.1: Corrosive to metals – Category 1 Skin Corr. 1A: Skin corrosion/irritation - Category 1A Eye Dam. 1: Serious eye damage/eye irritation – Category 1