Printing date 08/16/2024 Reviewed on 08/16/2024

1 Identification

· Product identifier

· Trade name: HF Calibration Standard #3

(10.0 ppm)

· Article number: HON103

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



GHS05 Corrosion

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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(10.0 ppm)

(Contd. of page 1)

Wash contaminated clothing before reuse.

Store locked up.

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)



3 Health = 3Fire = 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.

CAS: 7697-37-2 Nitric Acid	2.679%
Table of Nonhazardous Ingredients	·
CAS: 7732-18-5 Water	96.25%
CAS: 1336-21-6 Ammonium Hydroxide	0.992%
CAS: 7784-27-2 Aluminum Nitrate	0.014%
CAS: 10043-35-3 boric acid	0.006%
CAS: 16919-19-0 Ammonium hexafluorosilicate	0.006%
CAS: 13477-34-4 Calcium Nitrate Tetrahydrate	0.006%
CAS: 6156-78-1 Manganese Acetate Tetrahydrate	0.004%
CAS: 7783-28-0 Ammonium Phosphate Dibasic	0.004%
CAS: 7783-20-2 Ammonium Sulfate	0.004%
CAS: 7631-99-4 Sodium Nitrate	0.004%
CAS: 12060-08-1 scandium oxide	0.003%
CAS: 7757-79-1 Potassium Nitrate	0.003%
CAS: 10099-74-8 Lead Nitrate	0.002%
CAS: 7439-89-6	0.001%
CAS: 12054-85-2 Ammonium Molybdate Tetrahydrate ACS Grade	0.001%
Ammonium Hexafluorotitanate	0.001%
CAS: 7439-95-4 Magnesium	0.001%

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Trade name: HF Calibration Standard #3

(10.0 ppm)

 CAS: 7440-38-2
 arsenic
 (Contd. of page 2)

 0.001%
 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.
- · 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

Personal precautions, protective equipment and emergency procedures

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

· Environmental precautions:

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Dilute with plenty of water.

· 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 section 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

· PAC-1:		
CAS: 7697-37-2 Nitri	c Acid	0.16 ppm
CAS: 1336-21-6 Amm	ionium Hydroxide	61 ppm
CAS: 7784-27-2 Alum	ninum Nitrate	83 mg/m³
CAS: 10043-35-3 borio	c acid	6 mg/m³
		Contd. on page 4)

uc.

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Trade name: HF Calibration Standard #3 (10.0 ppm)

CAS: 13477-34-4 Calcium Nitrate Tetrahydrate 12 mg CAS: 6156-78-1 Manganese Acetate Tetrahydrate 13 mg CAS: 7783-28-0 Ammonium Phosphate Dibasic 20 mg CAS: 7783-29-1 Ammonium Sulfate 4.1 mg CAS: 7631-99-4 Sodium Nitrate 4.1 mg CAS: 12060-08-1 scandium oxide 30 mg CAS: 12060-08-1 Scandium oxide 0.24 m CAS: 12054-85-2 Ammonium Molybdate Tetrahydrate ACS Grade 2.8 mg CAS: 7439-89-6 Iron Metal 3.2 mg CAS: 7439-89-6 Iron Metal 3.2 mg CAS: 7440-38-2 arsenic 1.5 mg PAC-2:	CAS 1/010 10 0	4 . 1 (1 . 1)	(Contd. of pa
CAS: 6156-78-1 Manganese Acetate Tetrahydrate 13 mg CAS: 7783-20-2 Ammonium Phosphate Dibasic 20 mg CAS: 7783-20-2 Ammonium Sulfate 4.1 mg CAS: 7361-99-4 Sodium Nitrate 30 mg CAS: 12060-08-1 scandium oxide 30 mg CAS: 12060-08-1 casanium oxide 0.24 m CAS: 10099-74-8 Lead Nitrate 0.24 m CAS: 12054-85-2 Ammonium Molybdate Tetrahydrate ACS Grade 2.8 mg CAS: 7439-89-6 Iron Metal 3.2 mg CAS: 7439-95-4 Magnesium 1.6 mg CAS: 7440-38-2 arsenic 1.5 mg CAS: 7493-95-4 Magnesium 2.4 pg CAS: 7493-95-4 Magnesium 2.4 pg CAS: 7493-95-4 Mamonium Molybdate Tetrahydrate ACS Grade 2.8 mg CAS: 7697-37-2 Nitric Acid 2.4 pg CAS: 10043-35-3 boric acid 2.4 pg CAS: 1094-35-3 boric acid 2.3 mg CAS: 1043-35-3 boric acid 3.3 mg CAS: 1047-34-4 Calcium Nitrate Tetrahy		· · · · · · · · · · · · · · · · · · ·	12 mg/m
CAS: 7783-28-0 Ammonium Phosphate Dibasic 20 mg CAS: 7783-20-2 Ammonium Sulfate 13 mg CAS: 7631-99-4 Sodium Nitrate 4.1 mg CAS: 10090-08-1 scandium oxide 30 mg CAS: 10099-74-8 Lead Nitrate 0.24 n CAS: 10099-74-8 Lead Nitrate 0.24 n CAS: 7439-89-6 Iron Metal 3.2 mg CAS: 7439-89-6 Iron Metal 2.8 mg CAS: 7439-95-4 Magnesium 18 mg CAS: 7440-38-2 arsenic 1.5 mg CAS: 749-39-5 Mitric Acid 2.4 pp CAS: 7697-37-2 Nitric Acid 2.4 pp CAS: 7697-37-2 Aluminum Hydroxide 160 p CAS: 7894-27-2 Aluminum Nitrate 920 n CAS: 10043-35-3 Boric acid 23 mg CAS: 161919-19-0 Ammonium Phosphate Dibasic 39 pp CAS: 16191-19-0 Ammonium hexafluorosilicate 130 n CAS: 783-28-0 Ammonium Sulfate 22 mg CAS: 7783-28-0 Ammonium Sulfate 39 pp		•	_
CAS: 7783-20-2 Ammonium Sulfate 13 mg CAS: 7631-99-4 Sodium Nitrate 4.1 mg CAS: 12060-08-1 scandium oxide 9 mg/s CAS: 757-79-1 Potassium Nitrate 0.24 m CAS: 10099-74-8 Lead Nitrate 0.24 m CAS: 12054-85-2 Ammonium Molybdate Tetrahydrate ACS Grade 2.8 mg CAS: 7439-95-4 Magnesium 18 mg CAS: 7697-37-2 Nitric Acid 24 pp CAS: 7697-37-2 Nitric Acid 24 pp CAS: 1336-21-6 Ammonium Hydroxide 160 p CAS: 784-27-2 Aluminum Nitrate 92 m CAS: 16919-19-0 Ammonium hexafluorosilicate 130 n CAS: 13477-34-4 Calcium Nitrate Tetrahydrate 130 n CAS: 783-28-0 Ammonium Phosphate Dibasic 39 pp CAS: 7783-20-2 Ammonium Phosphate Dibasic 39 pp CAS: 7631-99-4 Sodium Nitrate 45 mg CAS: 7631-99-4 Sodium Nitrate 100 n CAS: 7439-89-6 Iron Metal 35 mg CAS: 7439-89-6 Iron Metal 35 mg CAS: 7439-89-6 Iron Metal<		·	ŭ
CAS: 7631-99-4 Sodium Nitrate 4.1 mg CAS: 12060-08-1 scandium oxide 30 mg CAS: 7757-79-1 Potassium Nitrate 0.24 n CAS: 1099-74-8 Lead Nitrate 0.24 n CAS: 7439-89-6 Iron Metal 3.2 mg CAS: 7439-89-4 Ammonium Molybdate Tetrahydrate ACS Grade 2.8 mg CAS: 7439-95-4 Magnesium 1.5 mg CAS: 7439-89-2 arsenic 1.5 mg CAS: 749-93-2 Nitric Acid 24 pp CAS: 7697-37-2 Nitric Acid 24 pp CAS: 1336-21-6 Ammonium Hydroxide 160 p CAS: 1784-27-2 Aluminum Nitrate 9.0 m CAS: 16919-19-0 Ammonium Hexafluorosilicate 130 n CAS: 16919-19-0 Ammonium Hexafluorosilicate 130 n CAS: 13477-34-4 Calcium Nitrate Tetrahydrate 22 mg CAS: 7631-94-9 Ammonium Phosphate Dibasic 39 pm CAS: 7631-99-4 Sodium Nitrate 45 mg CAS: 7757-79-1 Potassium Nitrate 180 n CAS: 7757-79-1 Potassium Nitrate 180 n CAS: 7439-89-6 Iron		•	_
CAS: 12060-08-1 scandium oxide 30 mg CAS: 7757-79-1 Potassium Nitrate 9 mg/n CAS: 10099-74-8 Lead Nitrate 0.24 m CAS: 7439-89-6 Iron Metal 3.2 mg CAS: 7439-89-7 Magnestum 18 mg CAS: 7440-38-2 arsenic 1.5 mg CAS: 7697-37-2 Nitric Acid 24 pp CAS: 7697-37-2 Nitric Acid 24 pp CAS: 10043-35-3 boric acid 23 mg CAS: 10043-35-3 boric acid 23 mg CAS: 16919-19-0 Ammonium Hydroxide 130 m CAS: 16919-19-0 Ammonium hexafluoroxilicate 130 m CAS: 16919-19-0 Ammonium hexafluoroxilicate 22 mg CAS: 783-28-0 Ammonium Phosphate Dibasic 39 pp CAS: 783-28-0 Ammonium Phosphate Dibasic 39 pp CAS: 7631-99-4 Sodium Nitrate 45 mg CAS: 7631-99-4 Sodium Nitrate 45 mg CAS: 12060-08-1 scandium oxide 330 m CAS: 7349-98-6 Iron Metal 35 mg		·	
CAS: 7757-79-1 Potassium Nitrate 9 mg/s CAS: 10099-74-8 Lead Nitrate 0.24 n CAS: 12054-85-2 Iron Metal 3.2 mg CAS: 12054-85-2 Ammonium Molybdate Tetrahydrate ACS Grade 2.8 mg CAS: 7439-95-4 Magnesium 1.5 mg PAC-2: CAS: 7697-37-2 Nitric Acid 24 pp CAS: 1336-21-6 Ammonium Hydroxide 160 p CAS: 1336-21-6 Ammonium Hydroxide 23 mg CAS: 16919-19-0 Ammonium Nitrate 92 n CAS: 16919-19-0 Ammonium hexafluorosilicate 130 n CAS: 16919-19-0 Ammonium Phosphate Dibasic 39 pp CAS: 7783-28-0 Ammonium Phosphate Dibasic 39 pp CAS: 7631-99-4 Sodium Nitrate 45 mg CAS: 12060-08-1 Scandium oxide 330 n CAS: 10099-74-8 Lead Nitrate 180 n CAS: 7439-89-6 Iron Metal 35 mg CAS: 7439-95-4 Magnesium 200 n CAS: 7439-95-4 Magnesium 200 n C			4.1 mg/n
CAS: 10099-74-8 Lead Nitrate 0.24 m CAS: 7439-89-6 Iron Metal 3.2 mg CAS: 12054-85-2 Ammonium Molybdate Tetrahydrate ACS Grade 2.8 mg CAS: 7439-95-4 Magnesium 1.5 mg CAS: 7440-38-2 arsenic 1.5 mg PAC-2: CAS: 7697-37-2 Nitric Acid 24 pp CAS: 1336-21-6 Ammonium Hydroxide 160 p CAS: 1043-35-3 boric acid 23 mg CAS: 1043-35-3 boric acid 23 mg CAS: 10491-19-0 Ammonium hexafluorosilicate 130 n CAS: 13477-34-4 Calcium Nitrate Tetrahydrate 130 n CAS: 7783-20-2 Ammonium Sulfate 22 mg CAS: 7783-20-2 Ammonium Sulfate 39 pp CAS: 783-9-4 Sodium Nitrate 45 mg CAS: 12060-08-1 scandium oxide 330 n CAS: 7439-89-6 Iron Metal 35 mg CAS: 7439-89-6 Iron Metal 35 mg CAS: 7440-38-2 arsenic 17 mg CAS: 7490-85-4 Ma			30 mg/m
CAS: 7439-89-6 Iron Metal 3.2 mg CAS: 12054-85-2 Ammonium Molybdate Tetrahydrate ACS Grade 2.8 mg CAS: 7439-95-4 Magnesium 18 mg CAS: 7440-38-2 arsenic 1.5 mg PAC-2: CAS: 1936-21-6 Ammonium Hydroxide 160 p CAS: 784-27-2 Aluminum Nitrate 920 n CAS: 16019-19-0 Ammonium hexafluorosilicate 130 n CAS: 16019-19-0 Ammonium hexafluorosilicate 130 n CAS: 1667-8-1 Manganese Acetate Tetrahydrate 22 mg CAS: 7783-28-0 Ammonium Phosphate Dibasic 39 pp CAS: 783-29-2 Ammonium Sulfate 99 mg CAS: 783-29-2 Ammonium Sulfate 45 mg CAS: 783-29-4 Sodium Nitrate 45 mg CAS: 783-29-2 Ammonium Sulfate 330 n CAS: 7577-79-1 Potassium Nitrate 180 n CAS: 7631-99-4 Sodium Nitrate 180 n CAS: 7639-89-6 Iron Metal 35 mg CAS: 7640-38-2 Ammonium Molybdate Tetrahydrate ACS Grade 30 mg CAS: 7439-95-4 Magnesium			9 mg/m^3
CAS: 12054-85-2 Ammonium Molybdate Tetrahydrate ACS Grade 2.8 mg CAS: 7439-95-4 Magnesium 18 mg CAS: 7440-38-2 arsenic 1.5 mg PAC-2: CAS: 7697-37-2 Nitric Acid 24 pp CAS: 1336-21-6 Ammonium Hydroxide 160 p CAS: 10043-35-3 boric acid 23 mg CAS: 16919-19-0 Ammonium hexafluorosilicate 130 n CAS: 16919-19-0 Ammonium hexafluorosilicate 130 n CAS: 1656-78-1 Manganese Acetate Tetrahydrate 22 mg CAS: 7783-28-0 Ammonium Phosphate Dibasic 39 pp CAS: 783-20-2 Ammonium Sulfate 99 mg CAS: 783-20-2 Ammonium Sulfate 45 mg CAS: 783-29-4 Sodium Nitrate 45 mg CAS: 783-29-7 Potassium Nitrate 100 m CAS: 739-89-6 Iron Metal 35 mg CAS: 7439-89-6 Iron Metal 35 mg CAS: 7440-38-2 arsenic 17 mg PAC-3: CAS: 7697-37-2 Nitric Acid 92 ppm CAS: 7697-37-2 Nitric Acid 80 mg <			0.24 mg/
CAS: 7439-95-4 Magnesium 18 mg CAS: 7440-38-2 arsenic 1.5 mg PAC-2: CAS: 7697-37-2 Nitric Acid 24 pp CAS: 1336-21-6 Ammonium Hydroxide 160 p CAS: 1784-27-2 Aluminum Nitrate 920 n CAS: 16919-19-0 Ammonium hexafluorosilicate 130 n CAS: 16919-19-0 Ammonium hexafluorosilicate 130 n CAS: 13477-34-4 Calcium Nitrate Tetrahydrate 22 mg CAS: 7783-28-0 Ammonium Phosphate Dibasic 39 pp CAS: 7783-28-0 Ammonium Sulfate 99 mg CAS: 7631-99-4 Sodium Nitrate 99 mg CAS: 7631-99-4 Sodium Nitrate 330 n CAS: 7757-79-1 Potassium Nitrate 100 n CAS: 71060-08-1 Scandium oxide 33 mg CAS: 12060-08-2 Lead Nitrate 180 n CAS: 7439-89-6 Iron Metal 35 mg CAS: 7439-95-4 Magnesium 200 n CAS: 7439-95-4 Magnesium 200 n CAS: 7697-37-2 Nitric Acid 92 ppm CAS: 1336-21-6			3.2 mg/n
CAS: 7440-38-2 arsenic 1.5 mg PAC-2: CAS: 7697-37-2 Nitric Acid 24 pp CAS: 1336-21-6 Ammonium Hydroxide 160 p CAS: 10043-35-3 boric acid 23 mg CAS: 16919-19-0 Ammonium hexafluorosilicate 130 m CAS: 16919-19-0 Ammonium hexafluorosilicate 130 m CAS: 13477-34-4 Calcium Nitrate Tetrahydrate 22 mg CAS: 7783-28-0 Ammonium Phosphate Dibasic 39 pp CAS: 7783-20-2 Ammonium Sulfate 99 mg CAS: 7631-99-4 Sodium Nitrate 45 mg CAS: 12060-08-1 scandium oxide 330 n CAS: 7757-79-1 Potassium Nitrate 100 n CAS: 7439-89-6 Iron Metal 35 mg CAS: 12054-85-2 Ammonium Molybdate Tetrahydrate ACS Grade 30 mg CAS: 7440-38-2 arsenic 17 mg PAC-3: CAS: 7336-21-6 Ammonium Hydroxide 1100 p CAS: 7784-27-2 Aluminum Nitrate 5,500 n CAS: 1336-21-6 Ammonium hexafluorosilicate 70 mg CAS: 16919-19-0 </td <td></td> <td>Ammonium Molybdate Tetrahydrate ACS Grade</td> <td>2.8 mg/n</td>		Ammonium Molybdate Tetrahydrate ACS Grade	2.8 mg/n
PAC-2: CAS: 7697-37-2 Nitric Acid 24 pp CAS: 1336-21-6 Ammonium Hydroxide 160 p CAS: 7784-27-2 Aluminum Nitrate 920 n CAS: 10043-35-3 boric acid 23 mg CAS: 16919-19-0 Ammonium hexafluorosilicate 130 m CAS: 13477-34-4 Calcium Nitrate Tetrahydrate 122 mg CAS: 6156-78-1 Manganese Acetate Tetrahydrate 22 mg CAS: 7783-28-0 Ammonium Phosphate Dibasic 39 pp CAS: 7631-99-4 Sodium Nitrate 45 mg CAS: 7631-99-4 Sodium Nitrate 45 mg CAS: 12060-08-1 scandium oxide 330 n CAS: 7787-79-1 Potassium Nitrate 100 n CAS: 10099-74-8 Lead Nitrate 180 m CAS: 12054-85-2 Ammonium Molybdate Tetrahydrate ACS Grade 30 mg CAS: 7439-89-6 Iron Metal 35 mg CAS: 7440-38-2 arsenic 17 mg PAC-3: 200 n CAS: 7697-37-2 Nitric Acid 92 ppm CAS: 1336-21-6		Magnesium	18 mg/m
CAS: 7697-37-2 Nitric Acid 24 pp CAS: 1336-21-6 Ammonium Hydroxide 160 p CAS: 7784-27-2 Aluminum Nitrate 920 m CAS: 10043-35-3 boric acid 23 mg CAS: 16919-19-0 Ammonium hexafluorosilicate 130 m CAS: 13477-34-4 Calcium Nitrate Tetrahydrate 120 m CAS: 6156-78-1 Manganese Acetate Tetrahydrate 22 mg CAS: 7783-28-0 Ammonium Phosphate Dibasic 39 pp CAS: 7783-20-2 Ammonium Sulfate 99 mg CAS: 7631-99-4 Sodium Nitrate 45 mg CAS: 7631-99-4 Sodium Nitrate 330 m CAS: 7787-79-1 Potassium Nitrate 100 m CAS: 10099-74-8 Lead Nitrate 180 m CAS: 7439-89-6 Iron Metal 35 mg CAS: 7439-95-4 Magnesium 200 m CAS: 7440-38-2 arsenic 17 mg PAC-3: CAS: 7697-37-2 Nitric Acid 92 ppm CAS: 7697-37-2 Nitric Acid 92 ppm CAS: 1336-21-6 Ammonium Hydroxide 1100 p CAS: 13477-34-4 Calcium Nitrate	CAS: 7440-38-2	arsenic	1.5 mg/n
CAS: 1336-21-6 Ammonium Hydroxide 160 p CAS: 7784-27-2 Aluminum Nitrate 920 m CAS: 10043-35-3 boric acid 23 mg CAS: 16919-19-0 Ammonium hexafluorosilicate 130 m CAS: 13477-34-4 Calcium Nitrate Tetrahydrate 130 m CAS: 6156-78-1 Manganese Acetate Tetrahydrate 22 mg CAS: 7783-28-0 Ammonium Phosphate Dibasic 39 pp CAS: 7783-20-2 Ammonium Sulfate 99 mg CAS: 7631-99-4 Sodium Nitrate 45 mg CAS: 7631-99-4 Sodium Nitrate 100 n CAS: 12060-08-1 scandium oxide 330 m CAS: 7757-79-1 Potassium Nitrate 100 n CAS: 10099-74-8 Lead Nitrate 180 n CAS: 12054-85-2 Ammonium Molybdate Tetrahydrate ACS Grade 30 mg CAS: 7439-95-4 Magnesium 200 n CAS: 7440-38-2 arsenic 17 mg PAC-3: CAS: 336-21-6 Ammonium Hydroxide 110 pp CAS: 1336-21-6 Ammonium Mirate 5,500 m CAS: 10919-19-0 Ammonium hexafluorosilicate			
CAS: 7784-27-2 Aluminum Nitrate 920 m CAS: 10043-35-3 boric acid 23 mg CAS: 16919-19-0 Ammonium hexafluorosilicate 130 m CAS: 13477-34-4 Calcium Nitrate Tetrahydrate 130 m CAS: 6156-78-1 Manganese Acetate Tetrahydrate 22 mg CAS: 7783-28-0 Ammonium Phosphate Dibasic 39 pp CAS: 7783-20-2 Ammonium Sulfate 99 mg CAS: 7631-99-4 Sodium Nitrate 45 mg CAS: 12060-08-1 scandium oxide 330 m CAS: 12060-08-1 scandium oxide 330 m CAS: 10099-74-8 Lead Nitrate 180 m CAS: 7757-79-1 Potassium Nitrate 180 m CAS: 10099-74-8 Lead Nitrate 180 m CAS: 7439-89-6 Iron Metal 35 mg CAS: 7439-89-5 Magnesium 200 m CAS: 7439-95-4 Magnesium 200 m CAS: 7440-38-2 arsenic 17 mg PAC-3: CAS: 7697-37-2 Nitric Acid 92 ppm CAS: 7697-37-2 Aluminum Nitrate 5,00 m CAS: 1336-21-6 Ammonium Hydroxide <td>CAS: 7697-37-2</td> <td>Nitric Acid</td> <td>24 ppm</td>	CAS: 7697-37-2	Nitric Acid	24 ppm
CAS: 10043-35-3 boric acid 23 mg CAS: 16919-19-0 Ammonium hexafluorosilicate 130 m CAS: 13477-34-4 Calcium Nitrate Tetrahydrate 130 m CAS: 6156-78-1 Manganese Acetate Tetrahydrate 22 mg CAS: 7783-28-0 Ammonium Phosphate Dibasic 39 pp CAS: 7783-20-2 Ammonium Sulfate 99 mg CAS: 7631-99-4 Sodium Nitrate 45 mg CAS: 12060-08-1 scandium oxide 330 n CAS: 7757-79-1 Potassium Nitrate 180 n CAS: 10099-74-8 Lead Nitrate 180 n CAS: 10099-74-8 Lead Nitrate 180 n CAS: 7439-89-6 Iron Metal 35 mg CAS: 12054-85-2 Ammonium Molybdate Tetrahydrate ACS Grade 30 mg CAS: 7439-95-4 Magnesium 200 m CAS: 7440-38-2 arsenic 17 mg PAC-3: CAS: 7697-37-2 Nitric Acid 92 ppm CAS: 1336-21-6 Ammonium Hydroxide 1100 pg CAS: 7697-37-2 Aluminum Nitrate 5,500 mg CAS: 16919-1	CAS: 1336-21-6	Ammonium Hydroxide	160 ppn
CAS: 16919-19-0 Ammonium hexafluorosilicate 130 m CAS: 13477-34-4 Calcium Nitrate Tetrahydrate 130 m CAS: 6156-78-1 Manganese Acetate Tetrahydrate 22 mg CAS: 7783-28-0 Ammonium Phosphate Dibasic 39 pp CAS: 7783-20-2 Ammonium Sulfate 99 mg CAS: 7631-99-4 Sodium Nitrate 45 mg CAS: 12060-08-1 scandium oxide 330 m CAS: 7757-79-1 Potassium Nitrate 180 m CAS: 10099-74-8 Lead Nitrate 180 m CAS: 7439-89-6 Iron Metal 35 mg CAS: 7439-89-6 Iron Metal 30 mg CAS: 7439-95-4 Magnesium 200 m CAS: 7440-38-2 arsenic 17 mg PAC-3: CAS: 7697-37-2 Nitric Acid 92 ppm CAS: 1336-21-6 Ammonium Hydroxide 1100 pp CAS: 10043-35-3 boric acid 830 mg CAS: 16919-19-0 Ammonium hexafluorosilicate 780 mg CAS: 13477-34-4 Calcium Nitrate Tetrahydrate 70 mg CAS: 6156-78-1 Manganese Acetate Tetrahydrate 740 mg	CAS: 7784-27-2	Aluminum Nitrate	920 mg/
CAS: 13477-34-4 Calcium Nitrate Tetrahydrate 130 m CAS: 6156-78-1 Manganese Acetate Tetrahydrate 22 mg CAS: 7783-28-0 Ammonium Phosphate Dibasic 39 pp CAS: 7783-20-2 Ammonium Sulfate 99 mg CAS: 7631-99-4 Sodium Nitrate 45 mg CAS: 12060-08-1 scandium oxide 330 n CAS: 7757-79-1 Potassium Nitrate 100 n CAS: 10099-74-8 Lead Nitrate 180 n CAS: 7439-89-6 Iron Metal 35 mg CAS: 7439-89-6 Iron Metal 35 mg CAS: 7439-95-4 Magnesium 200 n CAS: 7440-38-2 arsenic 17 mg PAC-3: CAS: 7697-37-2 Nitric Acid 92 ppm CAS: 1336-21-6 Ammonium Hydroxide 1100 pp CAS: 10043-35-3 boric acid 830 mg CAS: 16919-19-0 Ammonium hexafluorosilicate 780 mg CAS: 13477-34-4 Calcium Nitrate Tetrahydrate 70 mg CAS: 6156-78-1 Manganese Acetate Tetrahydrate 740 mg	CAS: 10043-35-3	boric acid	23 mg/n
CAS: 13477-34-4 Calcium Nitrate Tetrahydrate 130 m CAS: 6156-78-1 Manganese Acetate Tetrahydrate 22 mg CAS: 7783-28-0 Ammonium Phosphate Dibasic 39 pp CAS: 7783-20-2 Ammonium Sulfate 99 mg CAS: 7631-99-4 Sodium Nitrate 45 mg CAS: 12060-08-1 scandium oxide 330 n CAS: 7757-79-1 Potassium Nitrate 100 n CAS: 10099-74-8 Lead Nitrate 180 n CAS: 7439-89-6 Iron Metal 35 mg CAS: 7439-89-6 Iron Metal 35 mg CAS: 7439-95-4 Magnesium 200 n CAS: 7440-38-2 arsenic 17 mg PAC-3: CAS: 7697-37-2 Nitric Acid 92 ppm CAS: 1336-21-6 Ammonium Hydroxide 1100 pp CAS: 10043-35-3 boric acid 830 mg CAS: 16919-19-0 Ammonium hexafluorosilicate 780 mg CAS: 13477-34-4 Calcium Nitrate Tetrahydrate 70 mg CAS: 6156-78-1 Manganese Acetate Tetrahydrate 740 mg	CAS: 16919-19-0	Ammonium hexafluorosilicate	130 mg/
CAS: 6156-78-1 Manganese Acetate Tetrahydrate 22 mg CAS: 7783-28-0 Ammonium Phosphate Dibasic 39 pp CAS: 7783-20-2 Ammonium Sulfate 99 mg CAS: 7631-99-4 Sodium Nitrate 45 mg CAS: 12060-08-1 scandium oxide 330 n CAS: 10099-74-8 Lead Nitrate 180 n CAS: 7439-89-6 Iron Metal 35 mg CAS: 12054-85-2 Ammonium Molybdate Tetrahydrate ACS Grade 30 mg CAS: 7439-95-4 Magnesium 200 n CAS: 7440-38-2 arsenic 17 mg PAC-3: CAS: 7697-37-2 Nitric Acid 92 ppm CAS: 7784-27-2 Aluminum Hydroxide 1100 pp CAS: 7784-27-2 Aluminum Nitrate 5,500 n CAS: 10043-35-3 boric acid 830 mg CAS: 16919-19-0 Ammonium hexafluorosilicate 780 mg CAS: 13477-34-4 Calcium Nitrate Tetrahydrate 770 mg CAS: 6156-78-1 Manganese Acetate Tetrahydrate 740 mg CAS: 7783-28-0 Ammonium Phosphate Dibasic 240 pp CAS: 7783-20-2 Ammonium Sulfate	CAS: 13477-34-4	Calcium Nitrate Tetrahydrate	130 mg/
CAS: 7783-20-2 Ammonium Sulfate 99 mg CAS: 7631-99-4 Sodium Nitrate 45 mg CAS: 12060-08-1 scandium oxide 330 m CAS: 7757-79-1 Potassium Nitrate 100 m CAS: 10099-74-8 Lead Nitrate 180 m CAS: 7439-89-6 Iron Metal 35 mg CAS: 12054-85-2 Ammonium Molybdate Tetrahydrate ACS Grade 30 mg CAS: 7440-38-2 arsenic 17 mg PAC-3: CAS: 7697-37-2 Nitric Acid 92 ppm CAS: 1336-21-6 Ammonium Hydroxide 1100 pp CAS: 7784-27-2 Aluminum Nitrate 5,500 m CAS: 10043-35-3 boric acid 830 mg CAS: 16919-19-0 Ammonium hexafluorosilicate 780 mg CAS: 13477-34-4 Calcium Nitrate Tetrahydrate 770 mg CAS: 7783-28-0 Ammonium Phosphate Dibasic 240 pp CAS: 7783-20-2 Ammonium Sulfate 590 mg	CAS: 6156-78-1	Manganese Acetate Tetrahydrate	22 mg/n
CAS: 7783-20-2 Ammonium Sulfate 99 mg CAS: 7631-99-4 Sodium Nitrate 45 mg CAS: 12060-08-1 scandium oxide 330 m CAS: 7757-79-1 Potassium Nitrate 100 m CAS: 10099-74-8 Lead Nitrate 180 m CAS: 7439-89-6 Iron Metal 35 mg CAS: 12054-85-2 Ammonium Molybdate Tetrahydrate ACS Grade 30 mg CAS: 7440-38-2 arsenic 17 mg PAC-3: CAS: 7697-37-2 Nitric Acid 92 ppm CAS: 1336-21-6 Ammonium Hydroxide 1100 pp CAS: 7784-27-2 Aluminum Nitrate 5,500 m CAS: 10043-35-3 boric acid 830 mg CAS: 16919-19-0 Ammonium hexafluorosilicate 780 mg CAS: 13477-34-4 Calcium Nitrate Tetrahydrate 770 mg CAS: 7783-28-0 Ammonium Phosphate Dibasic 240 pp CAS: 7783-20-2 Ammonium Sulfate 590 mg	CAS: 7783-28-0	Ammonium Phosphate Dibasic	39 ppm
CAS: 7631-99-4 Sodium Nitrate 45 mg CAS: 12060-08-1 scandium oxide 330 m CAS: 7757-79-1 Potassium Nitrate 100 m CAS: 10099-74-8 Lead Nitrate 180 m CAS: 7439-89-6 Iron Metal 35 mg CAS: 12054-85-2 Ammonium Molybdate Tetrahydrate ACS Grade 30 mg CAS: 7439-95-4 Magnesium 200 m CAS: 7440-38-2 arsenic 17 mg PAC-3: CAS: 7697-37-2 Nitric Acid 92 ppm CAS: 1336-21-6 Ammonium Hydroxide 1100 pp CAS: 1784-27-2 Aluminum Nitrate 5,500 m CAS: 10043-35-3 boric acid 830 mg CAS: 16919-19-0 Ammonium hexafluorosilicate 780 mg CAS: 13477-34-4 Calcium Nitrate Tetrahydrate 770 mg CAS: 6156-78-1 Manganese Acetate Tetrahydrate 740 mg CAS: 7783-28-0 Ammonium Phosphate Dibasic 240 ppn CAS: 7783-20-2 Ammonium Sulfate 590 mg	CAS: 7783-20-2	Ammonium Sulfate	99 mg/n
CAS: 12060-08-1 scandium oxide 330 m CAS: 7757-79-1 Potassium Nitrate 100 m CAS: 10099-74-8 Lead Nitrate 180 m CAS: 7439-89-6 Iron Metal 35 mg CAS: 12054-85-2 Ammonium Molybdate Tetrahydrate ACS Grade 30 mg CAS: 7439-95-4 Magnesium 200 m CAS: 7440-38-2 arsenic 17 mg PAC-3: CAS: 7697-37-2 Nitric Acid 92 ppm CAS: 1336-21-6 Ammonium Hydroxide 1100 pp CAS: 7784-27-2 Aluminum Nitrate 5,500 m CAS: 10043-35-3 boric acid 830 mg CAS: 16919-19-0 Ammonium hexafluorosilicate 780 mg CAS: 13477-34-4 Calcium Nitrate Tetrahydrate 770 mg CAS: 6156-78-1 Manganese Acetate Tetrahydrate 740 mg CAS: 7783-28-0 Ammonium Phosphate Dibasic 240 pp CAS: 7783-20-2 Ammonium Sulfate 590 mg	CAS: 7631-99-4	Sodium Nitrate	45 mg/n
CAS: 7757-79-1 Potassium Nitrate 100 m CAS: 10099-74-8 Lead Nitrate 180 m CAS: 7439-89-6 Iron Metal 35 mg CAS: 12054-85-2 Ammonium Molybdate Tetrahydrate ACS Grade 30 mg CAS: 7439-95-4 Magnesium 200 m CAS: 7440-38-2 arsenic 17 mg PAC-3: CAS: 7697-37-2 Nitric Acid 92 ppm CAS: 1336-21-6 Ammonium Hydroxide 1100 pp CAS: 7784-27-2 Aluminum Nitrate 5,500 m CAS: 10043-35-3 boric acid 830 mg CAS: 16919-19-0 Ammonium hexafluorosilicate 780 mg CAS: 13477-34-4 Calcium Nitrate Tetrahydrate 770 mg CAS: 6156-78-1 Manganese Acetate Tetrahydrate 740 mg CAS: 7783-28-0 Ammonium Phosphate Dibasic 240 ppn CAS: 7783-20-2 Ammonium Sulfate 590 mg	CAS: 12060-08-1	scandium oxide	330 mg/
CAS: 10099-74-8 Lead Nitrate 180 m CAS: 7439-89-6 Iron Metal 35 mg CAS: 12054-85-2 Ammonium Molybdate Tetrahydrate ACS Grade 30 mg CAS: 7439-95-4 Magnesium 200 m CAS: 7440-38-2 arsenic 17 mg PAC-3: CAS: 7697-37-2 Nitric Acid 92 ppm CAS: 1336-21-6 Ammonium Hydroxide 1100 pp CAS: 7784-27-2 Aluminum Nitrate 5,500 m CAS: 10043-35-3 boric acid 830 mg CAS: 16919-19-0 Ammonium hexafluorosilicate 780 mg CAS: 13477-34-4 Calcium Nitrate Tetrahydrate 770 mg CAS: 6156-78-1 Manganese Acetate Tetrahydrate 740 mg CAS: 7783-28-0 Ammonium Phosphate Dibasic 240 pp CAS: 7783-20-2 Ammonium Sulfate 590 mg	CAS: 7757-79-1	Potassium Nitrate	100 mg/
CAS: 7439-89-6 Iron Metal 35 mg CAS: 12054-85-2 Ammonium Molybdate Tetrahydrate ACS Grade 30 mg CAS: 7439-95-4 Magnesium 200 m CAS: 7440-38-2 arsenic 17 mg PAC-3: CAS: 7697-37-2 Nitric Acid 92 ppm CAS: 1336-21-6 Ammonium Hydroxide 1100 pp CAS: 7784-27-2 Aluminum Nitrate 5,500 m CAS: 10043-35-3 boric acid 830 mg CAS: 16919-19-0 Ammonium hexafluorosilicate 780 mg CAS: 13477-34-4 Calcium Nitrate Tetrahydrate 770 mg CAS: 6156-78-1 Manganese Acetate Tetrahydrate 740 mg CAS: 7783-28-0 Ammonium Phosphate Dibasic 240 ppm CAS: 7783-20-2 Ammonium Sulfate 590 mg	CAS: 10099-74-8	Lead Nitrate	180 mg/
CAS: 12054-85-2 Ammonium Molybdate Tetrahydrate ACS Grade 30 mg CAS: 7439-95-4 Magnesium 200 m CAS: 7440-38-2 arsenic 17 mg PAC-3: CAS: 7697-37-2 Nitric Acid 92 ppm CAS: 1336-21-6 Ammonium Hydroxide 1100 pp CAS: 7784-27-2 Aluminum Nitrate 5,500 m CAS: 10043-35-3 boric acid 830 mg CAS: 16919-19-0 Ammonium hexafluorosilicate 780 mg CAS: 13477-34-4 Calcium Nitrate Tetrahydrate 770 mg CAS: 6156-78-1 Manganese Acetate Tetrahydrate 740 mg CAS: 7783-28-0 Ammonium Phosphate Dibasic 240 ppm CAS: 7783-20-2 Ammonium Sulfate 590 mg	CAS: 7439-89-6	Iron Metal	35 mg/n
CAS: 7439-95-4 Magnesium 200 m CAS: 7440-38-2 arsenic 17 mg PAC-3: CAS: 7697-37-2 Nitric Acid 92 ppm CAS: 1336-21-6 Ammonium Hydroxide 1100 pp CAS: 7784-27-2 Aluminum Nitrate 5,500 m CAS: 10043-35-3 boric acid 830 mg CAS: 16919-19-0 Ammonium hexafluorosilicate 780 mg CAS: 13477-34-4 Calcium Nitrate Tetrahydrate 770 mg CAS: 6156-78-1 Manganese Acetate Tetrahydrate 740 mg CAS: 7783-28-0 Ammonium Phosphate Dibasic 240 ppn CAS: 7783-20-2 Ammonium Sulfate 590 mg	CAS: 12054-85-2	Ammonium Molybdate Tetrahydrate ACS Grade	30 mg/n
CAS: 7440-38-2 arsenic 17 mg PAC-3: CAS: 7697-37-2 Nitric Acid 92 ppm CAS: 1336-21-6 Ammonium Hydroxide 1100 pp CAS: 7784-27-2 Aluminum Nitrate 5,500 m CAS: 10043-35-3 boric acid 830 mg CAS: 16919-19-0 Ammonium hexafluorosilicate 780 mg CAS: 13477-34-4 Calcium Nitrate Tetrahydrate 770 mg CAS: 6156-78-1 Manganese Acetate Tetrahydrate 740 mg CAS: 7783-28-0 Ammonium Phosphate Dibasic 240 ppn CAS: 7783-20-2 Ammonium Sulfate 590 mg			200 mg/
PAC-3: CAS: 7697-37-2 Nitric Acid 92 ppm CAS: 1336-21-6 Ammonium Hydroxide 1100 pp CAS: 7784-27-2 Aluminum Nitrate 5,500 n CAS: 10043-35-3 boric acid 830 mg CAS: 16919-19-0 Ammonium hexafluorosilicate 780 mg CAS: 13477-34-4 Calcium Nitrate Tetrahydrate 770 mg CAS: 6156-78-1 Manganese Acetate Tetrahydrate 740 mg CAS: 7783-28-0 Ammonium Phosphate Dibasic 240 ppn CAS: 7783-20-2 Ammonium Sulfate 590 mg			17 mg/n
CAS: 7697-37-2 Nitric Acid 92 ppm CAS: 1336-21-6 Ammonium Hydroxide 1100 pp CAS: 7784-27-2 Aluminum Nitrate 5,500 m CAS: 10043-35-3 boric acid 830 mg CAS: 16919-19-0 Ammonium hexafluorosilicate 780 mg CAS: 13477-34-4 Calcium Nitrate Tetrahydrate 770 mg CAS: 6156-78-1 Manganese Acetate Tetrahydrate 740 mg CAS: 7783-28-0 Ammonium Phosphate Dibasic 240 ppn CAS: 7783-20-2 Ammonium Sulfate 590 mg	PAC-3:		1 0
CAS: 1336-21-6 Ammonium Hydroxide 1100 pp CAS: 7784-27-2 Aluminum Nitrate 5,500 m CAS: 10043-35-3 boric acid 830 mg CAS: 16919-19-0 Ammonium hexafluorosilicate 780 mg CAS: 13477-34-4 Calcium Nitrate Tetrahydrate 770 mg CAS: 6156-78-1 Manganese Acetate Tetrahydrate 740 mg CAS: 7783-28-0 Ammonium Phosphate Dibasic 240 pp CAS: 7783-20-2 Ammonium Sulfate 590 mg		Nitric Acid	92 ppm
CAS: 7784-27-2 Aluminum Nitrate 5,500 m CAS: 10043-35-3 boric acid 830 mg CAS: 16919-19-0 Ammonium hexafluorosilicate 780 mg CAS: 13477-34-4 Calcium Nitrate Tetrahydrate 770 mg CAS: 6156-78-1 Manganese Acetate Tetrahydrate 740 mg CAS: 7783-28-0 Ammonium Phosphate Dibasic 240 ppn CAS: 7783-20-2 Ammonium Sulfate 590 mg			1100 ppm
CAS: 10043-35-3 boric acid 830 mg CAS: 16919-19-0 Ammonium hexafluorosilicate 780 mg CAS: 13477-34-4 Calcium Nitrate Tetrahydrate 770 mg CAS: 6156-78-1 Manganese Acetate Tetrahydrate 740 mg CAS: 7783-28-0 Ammonium Phosphate Dibasic 240 ppr CAS: 7783-20-2 Ammonium Sulfate 590 mg		•	5,500 mg/
CAS: 16919-19-0 Ammonium hexafluorosilicate 780 mg CAS: 13477-34-4 Calcium Nitrate Tetrahydrate 770 mg CAS: 6156-78-1 Manganese Acetate Tetrahydrate 740 mg CAS: 7783-28-0 Ammonium Phosphate Dibasic 240 ppr CAS: 7783-20-2 Ammonium Sulfate 590 mg			830 mg/m
CAS: 13477-34-4 Calcium Nitrate Tetrahydrate 770 mg CAS: 6156-78-1 Manganese Acetate Tetrahydrate 740 mg CAS: 7783-28-0 Ammonium Phosphate Dibasic 240 ppr CAS: 7783-20-2 Ammonium Sulfate 590 mg			780 mg/m
CAS: 6156-78-1 Manganese Acetate Tetrahydrate 740 mg CAS: 7783-28-0 Ammonium Phosphate Dibasic 240 ppr CAS: 7783-20-2 Ammonium Sulfate 590 mg		· · · · · · · · · · · · · · · · · · ·	770 mg/m
CAS: 7783-28-0 Ammonium Phosphate Dibasic 240 ppn CAS: 7783-20-2 Ammonium Sulfate 590 mg		•	740 mg/m
CAS: 7783-20-2 Ammonium Sulfate 590 mg		·	
v		•	* *
CAS: 7631-99-4 Sodium Nitrate 270 mg		<u> </u>	270 mg/m

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Trade name: HF Calibration Standard #3 (10.0 ppm)

CAS: 12060-08-1	scandium oxide	(Contd. of page 4) $2,000 \text{ mg/m}^3$
CAS: 7757-79-1	Potassium Nitrate	600 mg/m³
CAS: 10099-74-8	Lead Nitrate	$1,100 \text{ mg/m}^3$
CAS: 7439-89-6	Iron Metal	150 mg/m³
CAS: 12054-85-2	Ammonium Molybdate Tetrahydrate ACS Grade	180 mg/m³
CAS: 7439-95-4	Magnesium	1,200 mg/m³
CAS: 7440-38-2	arsenic	100 mg/m³

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.
- · 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:
-------------------	--------------	--------------	------------	-------------------

	: 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 Short-term value: 10 mg/m³, 4 ppm Long-term value: 5 mg/m³, 2 ppm Short-term value: (4) NIC-0.025 ppm Long-term value: (2) ppm
TLV	Short-term value: (4) NIC-0.025 ppm
	Long-term value: (2) ppm
	$NIC_{-}AA$

- · 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.

(Contd. on page 6)

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Trade name: HF Calibration Standard #3

(10.0 ppm)

(Contd. of page 5)

· 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.

· 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

· Body protection: Protective work clothing

Information on basic physical and c General Information	chemical properties	
Appearance:		
Form:	Liquid	
Color:	Colorless	
Odor:	Odorless	
Odor threshold:	Not determined.	
pH-value at 20 °C (68 °F):	<2	
Change in condition		
Melting point/Melting range:	0 °C (32 °F)	
Boiling point/Boiling range:	100 °C (212 °F)	
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.	
Vapor pressure at 20 °C (68 °F):	23 hPa (17.3 mm Hg)	

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Trade name: HF Calibration Standard #3

(10.0 ppm)

		(Contd. of pag
Density at 20 °C (68 °F):	1.01031 g/cm³ (8.43104 lbs/gal)	
Relative density	Not determined.	
Vapor density	Not determined.	
Evaporation rate	Not determined.	
Solubility in / Miscibility with		
Water:	Fully miscible.	
Partition coefficient (n-octanol/w	vater): Not determined.	
Viscosity:		
Dynamic:	Not determined.	
Kinematic:	Not determined.	
Solvent content:		
Water:	96.2 %	
VOC content:	0.00 %	
	0.0 g/l / 0.00 lb/gal	
Solids content:	0.0 %	
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:
- · LD/LC50 values that are relevant for classification:

ATE (Acute Toxicity Estimate)

Inhalative LC50/4h 112 mg/l

- 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

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(Contd. of page 7)

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

· Carcinogenic categories

The state of the s	nal Agency for Research on Cancer)	
CAS: 10099-74-8	Lead Nitrate	2A
CAS: 7440-38-2	arsenic	1
· ·	oxicology Program)	
CAS: 10099-74-8	Lead Nitrate	R
CAS: 7440-38-2	arsenic	K
· OSHA-Ca (Occup	oational Safety & Health Administration)	
CAS: 7440-38-2	arsenic	

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:

Not hazardous for water.

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
- · DOT, IMDG, IATA

UN3264

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Trade name: HF Calibration Standard #3 (10.0 ppm)

	(Contd. of page
UN proper shipping name DOT	Corrosive liquid, acidic, inorganic, n.o.s. (Nitric Acid) CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Nitri
· IMDG, IATA	Acid)
Transport hazard class(es)	
DOT	
CORROSIVE	
8	
Class	8 Corrosive substances
Label	8
· IMDG, IATA	
15 32 C	
Class	8 Corrosive substances
Label	8
Packing group DOT, IMDG, IATA	III
Environmental hazards:	Not applicable.
Special precautions for user	Warning: Corrosive substances
Hazard identification number (Kemler code)	
EMS Number:	F-A,S-B
Segregation groups	(SGG1) Acids
· Stowage Category · Stowage Code	A SW2 Clear of living quarters.
Transport in bulk according to Annex II of	5112 Cical of aving quarters.
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
· 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 (NITRIC ACID), 8, III

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Sara	at information available.	
	emely hazardous substances):	
CAS: 7697-37-2	Nitric Acid	
Section 313 (Spec	ific toxic chemical listings):	
	Nitric Acid	
CAS: 1336-21-6	Ammonium Hydroxide	
CAS: 7784-27-2	Aluminum Nitrate	
	Calcium Nitrate Tetrahydrate	
	Ammonium Sulfate	
	Potassium Nitrate	
CAS: 10099-74-8	Lead Nitrate	
CAS: 7440-38-2	arsenic	
TSCA (Toxic Sub	stances Control Act):	
Water		ACT
Nitric Acid		ACT
Ammonium Hydro	xide	ACT
boric acid		ACT
Ammonium hexafl	uorosilicate	ACT
Ammonium Phosp	hate Dibasic	ACT
Ammonium Sulfate	2	ACT.
Sodium Nitrate		ACT.
scandium oxide		ACT.
Potassium Nitrate		ACT
Lead Nitrate		ACT
Iron Metal		ACT
Magnesium		ACT
arsenic		ACT
Hazardous Air Po	llutants	
CAS: 10099-74-8	Lead Nitrate	
Proposition 65		
Chemicals known	to cause cancer:	
CAS: 10099-74-8	Lead Nitrate	
CAS: 7440-38-2	arsenic	
Chemicals known	to cause reproductive toxicity for females:	
None of the ingrea		

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Trade name: HF Calibration Standard #3

(10.0 ppm)

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· 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: 10099-74-8	Lead Nitrate	B2		
CAS: 7440-38-2	arsenic	A		
,	· TLV (Threshold Limit Value)			
CAS: 10043-35-3		A4		
CAS: 10099-74-8 Lead Nitrate		A3		
CAS: 7440-38-2	arsenic	A1		

· NIOSH-Ca (National Institute for Occupational Safety and Health)

CAS: 7440-38-2 arsenic

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



GHS05

- · 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).

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:

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Printing date 08/16/2024 Reviewed on 08/16/2024

Trade name: HF Calibration Standard #3 (10.0 ppm)

(Contd. of page 11)

Date of Preparation / Last Revision:

· Date of preparation / last revision

Revision 1.2, 08-16-2024: Reviewed SDS for accuracy. STN/GW 08/16/2024 / 1.1

· 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

* Data compared to the previous version altered.