

SAFETY DATA SHEET

7500 Series PA Tuning Solution Set, Part Number 5188-6524

Section 1. Identification

Product identifier : 7500 Series PA Tuning Solution Set, Part Number 5188-6524

Part no. (chemical kit) : 5188-6524

Part no. : 7500 Series PA Tuning 1 5188-6524-1
7500 Series PA Tuning 2 5188-6524-2

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

Identified uses : Reagents and Standards for Analytical Chemistry Laboratory Use
 7500 Series PA Tuning 1 100 ml
 7500 Series PA Tuning 2 100 ml

Supplier/Manufacturer : Agilent Technologies, Inc.
5301 Stevens Creek Blvd
Santa Clara, CA 95051, USA
800-227-9770

Emergency telephone number (with hours of operation) : CHEMTREC®: 1-800-424-9300

Section 2. Hazard identification

Classification of the substance or mixture

7500 Series PA Tuning 1

H290 CORROSIVE TO METALS - Category 1
 H314 SKIN CORROSION - Category 1
 H318 SERIOUS EYE DAMAGE - Category 1
 H411 Health Hazards Not Otherwise Classified - Category 1
 AQUATIC HAZARD (LONG-TERM) - Category 2

7500 Series PA Tuning 2

H290 CORROSIVE TO METALS - Category 1
 H331 ACUTE TOXICITY (inhalation) - Category 3
 H314 SKIN CORROSION - Category 1
 H318 SERIOUS EYE DAMAGE - Category 1
 Health Hazards Not Otherwise Classified - Category 1

GHS label elements

Hazard pictograms

: 7500 Series PA Tuning 1



7500 Series PA Tuning 2



Signal word

: 7500 Series PA Tuning 1 Danger
7500 Series PA Tuning 2 Danger

Section 2. Hazard identification

| | | |
|---------------------------------|--|---|
| Hazard statements | : 7500 Series PA Tuning 1 | H290 - May be corrosive to metals. H314 - Causes severe skin burns and eye damage. H411 - Toxic to aquatic life with long lasting effects. Causes respiratory tract burns. Causes digestive tract burns. |
| | 7500 Series PA Tuning 2 | H290 - May be corrosive to metals. H314 - Causes severe skin burns and eye damage. H331 - Toxic if inhaled. Causes respiratory tract burns. Causes digestive tract burns. |
| | | |
| Precautionary statements | | |
| Prevention | : 7500 Series PA Tuning 1 | P280 - Wear protective gloves, protective clothing and eye or face protection. P234 - Keep only in original packaging. P273 - Avoid release to the environment. |
| | 7500 Series PA Tuning 2 | P280 - Wear protective gloves, protective clothing and eye or face protection. P234 - Keep only in original packaging. P261 - Avoid breathing vapor. |
| | | |
| Response | : 7500 Series PA Tuning 1 | P391 - Collect spillage. P390 - Absorb spillage to prevent material damage. P304 + P310 - IF INHALED: Immediately call a POISON CENTER or doctor. P301 + P310, P330, P331 - IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. P303 + P361 + P353, P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. P363 - Wash contaminated clothing before reuse. P305 + P351 + P338, P310 - 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 or doctor. |
| | 7500 Series PA Tuning 2 | P390 - Absorb spillage to prevent material damage. P304 + P340, P310 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. P301 + P310, P330, P331 - IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. P303 + P361 + P353, P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. P363 - Wash contaminated clothing before reuse. P305 + P351 + P338, P310 - 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 or doctor. |
| | | |
| Storage | : 7500 Series PA Tuning 1 7500 Series PA Tuning 2 | Not applicable. Not applicable. |

Section 2. Hazard identification

| | | |
|--|---------------------------|--|
| Disposal | : 7500 Series PA Tuning 1 | P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. |
| | 7500 Series PA Tuning 2 | P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. |
| Supplemental label elements | : 7500 Series PA Tuning 1 | Keep container tightly closed. Do not breathe vapor or spray. Do not taste or swallow. Use only with adequate ventilation. Wash thoroughly after handling. |
| | 7500 Series PA Tuning 2 | Keep container tightly closed. Do not breathe vapor or spray. Do not taste or swallow. Use only with adequate ventilation. Wash thoroughly after handling. |
| Other hazards which do not result in classification | : 7500 Series PA Tuning 1 | None known. |
| | 7500 Series PA Tuning 2 | None known. |

Section 3. Composition/information on ingredients

| | | |
|--------------------------|---------------------------|---------|
| Substance/mixture | : 7500 Series PA Tuning 1 | Mixture |
| | 7500 Series PA Tuning 2 | Mixture |

| Ingredient name | Synonyms | % (w/w) | CAS number |
|--------------------------------|-------------------------|-----------|------------|
| 7500 Series PA Tuning 1 | | | |
| nitric acid | Nitric acid | ≥5 - ≤10 | 7697-37-2 |
| Cadmium | Cadmium (Cd) | ≤0.1 | 7440-43-9 |
| 7500 Series PA Tuning 2 | | | |
| Hydrochloric acid | Hydrochloric Acid (HCl) | ≥10 - ≤30 | 7647-01-0 |
| nitric acid | Nitric acid | ≥1 - ≤5 | 7697-37-2 |

Ranges if listed above for hazardous ingredient(s) are prescribed ranges. The actual concentration(s) or actual concentration range(s) are being withheld as a trade secret.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-aid measures

Description of necessary first aid measures

| | | |
|--------------------|---------------------------|--|
| Eye contact | : 7500 Series PA Tuning 1 | Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. |
| | 7500 Series PA Tuning 2 | Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. |

Section 4. First-aid measures

Inhalation

: 7500 Series PA Tuning 1

Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

7500 Series PA Tuning 2

Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact

: 7500 Series PA Tuning 1

Get medical attention immediately. Call a poison center or physician. Wash contaminated skin with soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately. Call a poison center or physician. Wash contaminated skin with soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

7500 Series PA Tuning 2

Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a

Ingestion

: 7500 Series PA Tuning 1

Section 4. First-aid measures

7500 Series PA Tuning 2

physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

| | | |
|---------------------|--|--|
| Eye contact | : 7500 Series PA Tuning 1 7500 Series PA Tuning 2 | Causes serious eye damage. Causes serious eye damage. |
| Inhalation | : 7500 Series PA Tuning 1 7500 Series PA Tuning 2 | Corrosive to the respiratory system. Toxic if inhaled. Corrosive to the respiratory system. |
| Skin contact | : 7500 Series PA Tuning 1 7500 Series PA Tuning 2 | Causes severe burns. Causes severe burns. |
| Ingestion | : 7500 Series PA Tuning 1 7500 Series PA Tuning 2 | May cause burns to mouth, throat and stomach. Corrosive to the digestive tract. Causes burns. May cause burns to mouth, throat and stomach. Corrosive to the digestive tract. Causes burns. |

Over-exposure signs/symptoms

| | | |
|---------------------|--|--|
| Eye contact | : 7500 Series PA Tuning 1 7500 Series PA Tuning 2 | Adverse symptoms may include the following: pain watering redness Adverse symptoms may include the following: pain watering redness |
| Inhalation | : 7500 Series PA Tuning 1 7500 Series PA Tuning 2 | Adverse symptoms may include the following: respiratory tract irritation coughing Adverse symptoms may include the following: respiratory tract irritation coughing |
| Skin contact | : 7500 Series PA Tuning 1 7500 Series PA Tuning 2 | Adverse symptoms may include the following: pain or irritation redness blistering may occur Adverse symptoms may include the following: pain or irritation redness blistering may occur |

Section 4. First-aid measures

| | | |
|------------------|---------------------------|--|
| Ingestion | : 7500 Series PA Tuning 1 | Adverse symptoms may include the following: stomach pains |
| | 7500 Series PA Tuning 2 | Adverse symptoms may include the following: stomach pains |

Indication of immediate medical attention and special treatment needed, if necessary

| | | |
|-----------------------------------|---------------------------|---|
| Notes to physician | : 7500 Series PA Tuning 1 | In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. |
| | 7500 Series PA Tuning 2 | In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. |
| Specific treatments | : 7500 Series PA Tuning 1 | No specific treatment. |
| | 7500 Series PA Tuning 2 | No specific treatment. |
| Protection of first-aiders | : 7500 Series PA Tuning 1 | No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. |
| | 7500 Series PA Tuning 2 | No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. |

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

| | | |
|---|---------------------------|---|
| Suitable extinguishing media | : 7500 Series PA Tuning 1 | Use an extinguishing agent suitable for the surrounding fire. |
| | 7500 Series PA Tuning 2 | Use an extinguishing agent suitable for the surrounding fire. |
| Unsuitable extinguishing media | : 7500 Series PA Tuning 1 | None known. |
| | 7500 Series PA Tuning 2 | None known. |
| Specific hazards arising from the chemical | : 7500 Series PA Tuning 1 | In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. |
| | 7500 Series PA Tuning 2 | In a fire or if heated, a pressure increase will occur and the container may burst. |

Section 5. Fire-fighting measures

| | | |
|---|---------------------------|---|
| Hazardous thermal decomposition products | : 7500 Series PA Tuning 1 | Decomposition products may include the following materials: nitrogen oxides |
| | 7500 Series PA Tuning 2 | Decomposition products may include the following materials: nitrogen oxides halogenated compounds |
| Special protective actions for fire-fighters | : 7500 Series PA Tuning 1 | Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. |
| | 7500 Series PA Tuning 2 | Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. |
| Special protective equipment for fire-fighters | : 7500 Series PA Tuning 1 | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. |
| | 7500 Series PA Tuning 2 | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. |

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

| | | |
|------------------------------------|---------------------------|---|
| For non-emergency personnel | : 7500 Series PA Tuning 1 | No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. |
| | 7500 Series PA Tuning 2 | No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. |
| For emergency responders | : 7500 Series PA Tuning 1 | If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel". |
| | 7500 Series PA Tuning 2 | If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel". |

Section 6. Accidental release measures

| | | |
|----------------------------------|---------------------------|--|
| Environmental precautions | : 7500 Series PA Tuning 1 | Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage. |
| | 7500 Series PA Tuning 2 | Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). |

Methods and materials for containment and cleaning up

| | | |
|--------------------------------|---------------------------|---|
| Methods for cleaning up | : 7500 Series PA Tuning 1 | Stop leak if without risk. Move containers from spill area. The spilled material may be neutralized with sodium carbonate, sodium bicarbonate or sodium hydroxide. Absorb spillage to prevent material damage. Dispose of via a licensed waste disposal contractor. |
| | 7500 Series PA Tuning 2 | Stop leak if without risk. Move containers from spill area. The spilled material may be neutralized with sodium carbonate, sodium bicarbonate or sodium hydroxide. Absorb spillage to prevent material damage. Dispose of via a licensed waste disposal contractor. |

Section 7. Handling and storage

Precautions for safe handling

| | | |
|----------------------------|---------------------------|---|
| Protective measures | : 7500 Series PA Tuning 1 | Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from alkalis. Empty containers retain product residue and can be hazardous. Do not reuse container. Absorb spillage to prevent material damage. |
| | 7500 Series PA Tuning 2 | Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from alkalis. Empty containers retain product residue and can be hazardous. Do not reuse container. Absorb spillage to prevent material damage. |

Section 7. Handling and storage

Advice on general occupational hygiene

: 7500 Series PA Tuning 1

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7500 Series PA Tuning 2

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

: 7500 Series PA Tuning 1

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store in a corrosion resistant container with a resistant inner liner. Store locked up. Separate from alkalis. Keep away from metals. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7500 Series PA Tuning 2

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store in a corrosion resistant container with a resistant inner liner. Store locked up. Separate from alkalis. Keep away from metals. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|---|--|
| 7500 Series PA Tuning 1 nitric acid | CA Alberta Provincial (Canada, 3/2023). OEL: 4 ppm 15 minutes. OEL: 10 mg/m ³ 15 minutes. OEL: 2 ppm 8 hours. OEL: 5.2 mg/m ³ 8 hours. CA British Columbia Provincial (Canada, 8/2023). |

Section 8. Exposure controls/personal protection

| | |
|--|---|
| Cadmium | <p>TWA: 2 ppm 8 hours. STEL: 4 ppm 15 minutes. CA Ontario Provincial (Canada, 6/2019). TWA: 2 ppm 8 hours. STEL: 4 ppm 15 minutes. CA Quebec Provincial (Canada, 9/2023). TWAEV: 2 ppm 8 hours. TWAEV: 5.2 mg/m³ 8 hours. STEV: 4 ppm 15 minutes. STEV: 10 mg/m³ 15 minutes. CA Saskatchewan Provincial (Canada, 4/2021). STEL: 4 ppm 15 minutes. TWA: 2 ppm 8 hours. CA British Columbia Provincial (Canada, 8/2023). [Cadmium and compounds] TWA: 0.002 mg/m³, (as Cd) 8 hours. Form: Respirable TWA: 0.01 mg/m³, (as Cd) 8 hours. CA Alberta Provincial (Canada, 3/2023). OEL: 0.01 mg/m³ 8 hours. CA Quebec Provincial (Canada, 9/2023). [Cadmium elemental and compounds] TWAEV: 0.025 mg/m³, (as Cd) 8 hours. CA Ontario Provincial (Canada, 6/2019). TWA: 0.01 mg/m³ 8 hours. CA Saskatchewan Provincial (Canada, 4/2021). [Cadmium, and compounds] STEL: 0.006 mg/m³, (measured as Cd) 15 minutes. Form: respirable fraction TWA: 0.002 mg/m³, (measured as Cd) 8 hours. Form: respirable fraction STEL: 0.03 mg/m³, (measured as Cd) 15 minutes. Form: total fraction TWA: 0.01 mg/m³, (measured as Cd) 8 hours. Form: total fraction</p> |
| <p>7500 Series PA Tuning 2 Hydrochloric acid</p> | <p>CA Alberta Provincial (Canada, 3/2023). C: 3 mg/m³ C: 2 ppm CA British Columbia Provincial (Canada, 8/2023). C: 2 ppm CA Ontario Provincial (Canada, 6/2019). Ceiling Limit: 2 ppm CA Quebec Provincial (Canada, 9/2023). C: 2 ppm CA Saskatchewan Provincial (Canada, 4/2021). CEIL: 2 ppm</p> |
| nitric acid | <p>CA Alberta Provincial (Canada, 3/2023). OEL: 4 ppm 15 minutes. OEL: 10 mg/m³ 15 minutes. OEL: 2 ppm 8 hours. OEL: 5.2 mg/m³ 8 hours. CA British Columbia Provincial (Canada, 8/2023).</p> |

Section 8. Exposure controls/personal protection

TWA: 2 ppm 8 hours.
 STEL: 4 ppm 15 minutes.
CA Ontario Provincial (Canada, 6/2019).
 TWA: 2 ppm 8 hours.
 STEL: 4 ppm 15 minutes.
CA Quebec Provincial (Canada, 9/2023).
 TWAEV: 2 ppm 8 hours.
 TWAEV: 5.2 mg/m³ 8 hours.
 STEV: 4 ppm 15 minutes.
 STEV: 10 mg/m³ 15 minutes.
CA Saskatchewan Provincial (Canada, 4/2021).
 STEL: 4 ppm 15 minutes.
 TWA: 2 ppm 8 hours.

Biological exposure indices

No exposure indices known.

- Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Section 8. Exposure controls/personal protection

- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

- Physical state** : 7500 Series PA Tuning 1 Liquid.
7500 Series PA Tuning 2 Liquid.
- Color** : 7500 Series PA Tuning 1 Not available.
7500 Series PA Tuning 2 Not available.
- Odor** : 7500 Series PA Tuning 1 Not available.
7500 Series PA Tuning 2 Not available.
- Odor threshold** : 7500 Series PA Tuning 1 Not available.
7500 Series PA Tuning 2 Not available.
- pH** : 7500 Series PA Tuning 1 <2
7500 Series PA Tuning 2 <2
- Melting point/freezing point** : 7500 Series PA Tuning 1 Not available.
7500 Series PA Tuning 2 Not available.
- Boiling point, initial boiling point, and boiling range** : 7500 Series PA Tuning 1 Not available.
7500 Series PA Tuning 2 Not available.
- Flash point** : 7500 Series PA Tuning 1 Not available.
7500 Series PA Tuning 2 Not available.
- Evaporation rate** : 7500 Series PA Tuning 1 Not available.
7500 Series PA Tuning 2 Not available.
- Flammability** : 7500 Series PA Tuning 1 Not applicable.
7500 Series PA Tuning 2 Not applicable.
- Lower and upper explosion limit/flammability limit** : 7500 Series PA Tuning 1 Not available.
7500 Series PA Tuning 2 Not available.

Vapor pressure

| Ingredient name | Vapor Pressure at 20°C | | | Vapor pressure at 50°C | | |
|--------------------------------|------------------------|-----|--------|------------------------|------|--------|
| | mm Hg | kPa | Method | mm Hg | kPa | Method |
| 7500 Series PA Tuning 1 | | | | | | |
| nitric acid [C ≤ 70%] | 48.0039 | 6.4 | - | - | - | - |
| water | 17.5 | 2.3 | - | 92.258 | 12.3 | - |
| 7500 Series PA Tuning 2 | | | | | | |
| nitric acid [C ≤ 70%] | 48.0039 | 6.4 | - | - | - | - |
| water | 17.5 | 2.3 | - | 92.258 | 12.3 | - |

- Relative vapor density** : 7500 Series PA Tuning 1 Not available.
7500 Series PA Tuning 2 Not available.

- Relative density** : 7500 Series PA Tuning 1 Not available.
7500 Series PA Tuning 2 Not available.

Section 9. Physical and chemical properties and safety characteristics

| Solubility(ies) | Media | Result |
|---|--|------------------------------------|
| | 7500 Series PA Tuning 1 water | Soluble |
| | 7500 Series PA Tuning 2 water | Soluble |
| Partition coefficient: n-octanol/water | 7500 Series PA Tuning 1 7500 Series PA Tuning 2 | Not applicable. Not applicable. |
| Auto-ignition temperature | | Not available. |
| Decomposition temperature | 7500 Series PA Tuning 1 7500 Series PA Tuning 2 | Not available. Not available. |
| Viscosity | 7500 Series PA Tuning 1 7500 Series PA Tuning 2 | Not available. Not available. |
| Particle characteristics | | |
| Median particle size | 7500 Series PA Tuning 1 7500 Series PA Tuning 2 | Not applicable. Not applicable. |

Section 10. Stability and reactivity

| | | |
|---|--|--|
| Reactivity | 7500 Series PA Tuning 1 7500 Series PA Tuning 2 | No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients. |
| Chemical stability | 7500 Series PA Tuning 1 7500 Series PA Tuning 2 | The product is stable. The product is stable. |
| Possibility of hazardous reactions | 7500 Series PA Tuning 1 7500 Series PA Tuning 2 | Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. |
| Conditions to avoid | 7500 Series PA Tuning 1 7500 Series PA Tuning 2 | No specific data. No specific data. |
| Incompatible materials | 7500 Series PA Tuning 1 7500 Series PA Tuning 2 | Attacks many metals producing extremely flammable hydrogen gas which can form explosive mixtures with air. Reactive or incompatible with the following materials: alkalis metals Attacks many metals producing extremely flammable hydrogen gas which can form explosive mixtures with air. Reactive or incompatible with the following materials: alkalis metals |
| Hazardous decomposition products | 7500 Series PA Tuning 1 7500 Series PA Tuning 2 | Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|--|-----------------------|---------|-----------------------|----------|
| 7500 Series PA Tuning 1 nitric acid Cadmium | LC50 Inhalation Vapor | Rat | 2500 ppm | 1 hours |
| | LC50 Inhalation Vapor | Rat | 130 mg/m ³ | 4 hours |
| | LD50 Oral | Rat | 225 mg/kg | - |
| 7500 Series PA Tuning 2 Hydrochloric acid nitric acid | LC50 Inhalation Gas. | Rat | 3124 ppm | 1 hours |
| | LC50 Inhalation Vapor | Rat | 2500 ppm | 1 hours |
| | LC50 Inhalation Vapor | Rat | 130 mg/m ³ | 4 hours |

Irritation/Corrosion

Not available.

Sensitization

Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Classification

| Product/ingredient name | IARC | NTP | ACGIH |
|--|------|---------------------------------|-------|
| 7500 Series PA Tuning 1 nitric acid Cadmium | - | - | A4 |
| | 1 | Known to be a human carcinogen. | A2 |
| 7500 Series PA Tuning 2 Hydrochloric acid nitric acid | 3 | - | A4 |
| | - | - | A4 |

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

| Name | Category | Route of exposure | Target organs |
|---|------------|-------------------|------------------------------|
| 7500 Series PA Tuning 2 Hydrochloric acid | Category 3 | - | Respiratory tract irritation |

Specific target organ toxicity (repeated exposure)

| Name | Category | Route of exposure | Target organs |
|---|------------|-------------------|-----------------------|
| 7500 Series PA Tuning 1 Cadmium | Category 1 | inhalation | bones, kidneys, lungs |

Aspiration hazard

Not available.

Section 11. Toxicological information

Information on the likely routes of exposure : 7500 Series PA Tuning 1 Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
7500 Series PA Tuning 2 Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

Potential acute health effects

Eye contact : 7500 Series PA Tuning 1 Causes serious eye damage.
7500 Series PA Tuning 2 Causes serious eye damage.

Inhalation : 7500 Series PA Tuning 1 Corrosive to the respiratory system.
7500 Series PA Tuning 2 Toxic if inhaled. Corrosive to the respiratory system.

Skin contact : 7500 Series PA Tuning 1 Causes severe burns.
7500 Series PA Tuning 2 Causes severe burns.

Ingestion : 7500 Series PA Tuning 1 May cause burns to mouth, throat and stomach.
7500 Series PA Tuning 2 Corrosive to the digestive tract. Causes burns.
May cause burns to mouth, throat and stomach.
Corrosive to the digestive tract. Causes burns.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : 7500 Series PA Tuning 1 Adverse symptoms may include the following:
pain
watering
redness
7500 Series PA Tuning 2 Adverse symptoms may include the following:
pain
watering
redness

Inhalation : 7500 Series PA Tuning 1 Adverse symptoms may include the following:
respiratory tract irritation
coughing
7500 Series PA Tuning 2 Adverse symptoms may include the following:
respiratory tract irritation
coughing

Skin contact : 7500 Series PA Tuning 1 Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
7500 Series PA Tuning 2 Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion : 7500 Series PA Tuning 1 Adverse symptoms may include the following:
stomach pains
7500 Series PA Tuning 2 Adverse symptoms may include the following:
stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Section 11. Toxicological information

Potential chronic health effects

| | | |
|------------------------------|--|--|
| General | : 7500 Series PA Tuning 1 7500 Series PA Tuning 2 | No known significant effects or critical hazards. No known significant effects or critical hazards. |
| Carcinogenicity | : 7500 Series PA Tuning 1 7500 Series PA Tuning 2 | No known significant effects or critical hazards. No known significant effects or critical hazards. |
| Mutagenicity | : 7500 Series PA Tuning 1 7500 Series PA Tuning 2 | No known significant effects or critical hazards. No known significant effects or critical hazards. |
| Reproductive toxicity | : 7500 Series PA Tuning 1 7500 Series PA Tuning 2 | No known significant effects or critical hazards. No known significant effects or critical hazards. |

Numerical measures of toxicity

Acute toxicity estimates

| Product/ingredient name | Oral (mg/kg) | Dermal (mg/kg) | Inhalation (gases) (ppm) | Inhalation (vapors) (mg/l) | Inhalation (dusts and mists) (mg/l) |
|---|-------------------|-------------------|--------------------------|----------------------------|-------------------------------------|
| 7500 Series PA Tuning 1 7500 Series PA Tuning 1 nitric acid Cadmium | N/A N/A 225 | N/A N/A N/A | N/A N/A N/A | 53.0 2.65 N/A | 32.2 1.61125 0.05 |
| 7500 Series PA Tuning 2 7500 Series PA Tuning 2 Hydrochloric acid nitric acid | N/A N/A N/A | N/A N/A N/A | 15620.0 1562 N/A | 10.0 1.038 2.65 | 161.1 N/A 1.61125 |

Section 12. Ecological information

Toxicity

| Product/ingredient name | Result | Species | Exposure |
|---|-------------------------------------|---|----------|
| 7500 Series PA Tuning 1 nitric acid | Acute LC50 180000 µg/l Marine water | Crustaceans - <i>Carcinus maenas</i> - Adult | 48 hours |
| Cadmium | Acute EC50 0.095 mg/l Marine water | Algae - <i>Ulva pertusa</i> | 96 hours |
| | Acute EC50 200 µg/l Fresh water | Aquatic plants - <i>Lemna minor</i> | 4 days |
| | Acute EC50 13.5 µg/l Fresh water | Daphnia - <i>Daphnia magna</i> - Neonate | 48 hours |
| | Acute LC50 0.072 µg/l Marine water | Crustaceans - <i>Amphipoda</i> - Adult | 48 hours |
| | Acute LC50 1 µg/l Fresh water | Fish - <i>Pimephales promelas</i> - Juvenile (Fledgling, Hatchling, Weanling) | 96 hours |
| | Chronic NOEC 2 µg/l Fresh water | Algae - <i>Parachlorella kessleri</i> - Exponential growth phase | 72 hours |
| | Chronic NOEC 0.02 µg/l Fresh water | Fish - <i>Cyprinus carpio</i> | 4 weeks |
| 7500 Series PA Tuning 2 Hydrochloric acid | Acute LC50 240000 µg/l Marine water | Crustaceans - <i>Carcinus maenas</i> - Adult | 48 hours |
| nitric acid | Acute LC50 282 ppm Fresh water | Fish - <i>Gambusia affinis</i> - Adult | 96 hours |
| | Acute LC50 180000 µg/l Marine water | Crustaceans - <i>Carcinus maenas</i> - Adult | 48 hours |

Section 12. Ecological information

Persistence and degradability

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|--|-------------------|------------|------------------|
| 7500 Series PA Tuning 1 nitric acid | - | - | Readily |
| 7500 Series PA Tuning 2 nitric acid | - | - | Readily |

Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|--|--------------------|-----|-----------|
| 7500 Series PA Tuning 1 nitric acid | -0.21 | - | Low |
| 7500 Series PA Tuning 2 nitric acid | -0.21 | - | Low |

Mobility in soil






Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

| | TDG Classification | IMDG | IATA |
|----------------------------|--|--|--|
| UN number | UN3264 | UN3264 | UN3264 |
| UN proper shipping name | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Hydrochloric acid, nitric acid) | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Hydrochloric acid, nitric acid) | Corrosive liquid, acidic, inorganic, n.o.s. (Hydrochloric acid, nitric acid) |
| Transport hazard class(es) | 8   | 8   | 8  |
| Packing group | III | III | III |

Section 14. Transport information

| | | | |
|------------------------------|------|------|--|
| Environmental hazards | Yes. | Yes. | Yes. The environmentally hazardous substance mark is not required. |
|------------------------------|------|------|--|

Proof of classification statement : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.40-2.42 (Class 8), 2.7 (Marine pollutant mark).

Additional information

TDG Classification : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.40-2.42 (Class 8), 2.7 (Marine pollutant mark).
The marine pollutant mark is not required when transported by road or rail.
Explosive Limit and Limited Quantity Index 5
Passenger Carrying Road or Rail Index 5
Special provisions 16

IMDG : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.
Emergency schedules F-A, S-B
Special provisions 223, 274

IATA : The environmentally hazardous substance mark may appear if required by other transportation regulations.
Quantity limitation Passenger and Cargo Aircraft: 5 L. Packaging instructions: 852.
Cargo Aircraft Only: 60 L. Packaging instructions: 856. Limited Quantities - Passenger Aircraft: 1 L. Packaging instructions: Y841.
Special provisions A3, A803

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

Canadian lists

Canadian NPRI : The following components are listed: hydrochloric acid; nitric acid

CEPA Toxic substances : None of the components are listed.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Canada : Not determined.

United States : Not determined.

Section 16. Other information

History

Date of issue/Date of revision : 05/09/2024

Date of previous issue : 06/28/2021

Version : 7

Key to abbreviations

: ATE = Acute Toxicity Estimate
 BCF = Bioconcentration Factor
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 HPR = Hazardous Products Regulations
 IATA = International Air Transport Association
 IBC = Intermediate Bulk Container
 IMDG = International Maritime Dangerous Goods
 LogPow = logarithm of the octanol/water partition coefficient
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 N/A = Not available
 UN = United Nations

Procedure used to derive the classification

| Classification | Justification |
|--|---|
| 7500 Series PA Tuning 1 CORROSIVE TO METALS - Category 1 SKIN CORROSION - Category 1 SERIOUS EYE DAMAGE - Category 1 Health Hazards Not Otherwise Classified - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 2 | Expert judgment On basis of test data On basis of test data Calculation method Calculation method |
| 7500 Series PA Tuning 2 CORROSIVE TO METALS - Category 1 ACUTE TOXICITY (inhalation) - Category 3 SKIN CORROSION - Category 1 SERIOUS EYE DAMAGE - Category 1 Health Hazards Not Otherwise Classified - Category 1 | Expert judgment Calculation method On basis of test data On basis of test data Calculation method |

Indicates information that has changed from previously issued version.

Notice to reader

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