

SAFETY DATA SHEET

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

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name	: 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	

1.2 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	
Uses advised against	: None known.		

1.3 Details of the supplier of the safety data sheet

Agilent Technologies LDA UK Ltd.
5500 Lakeside Cheadle Royal Business Park,
Cheadle, Cheshire, SK8 3GR
United Kingdom
Tel: +44 (0) 345 712 5292

e-mail address of person responsible for this SDS : pdl-msds_author@agilent.com

1.4 Emergency telephone number

Emergency telephone number (with hours of operation) : CHEMTREC®: +(44)-870-8200418

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : 7500 Series PA Tuning 1 Mixture
7500 Series PA Tuning 2 Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

7500 Series PA

Tuning 1

H290	CORROSIVE TO METALS	Category 1
H314	SKIN CORROSION/IRRITATION	Category 1
H411	LONG-TERM (CHRONIC) AQUATIC HAZARD	Category 2

7500 Series PA

Tuning 2

H290	CORROSIVE TO METALS	Category 1
H314	SKIN CORROSION/IRRITATION	Category 1
H335	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation)	Category 3

7500 Series PA Tuning 1 : The product is classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.

7500 Series PA Tuning 2 : The product is classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

SECTION 2: Hazards identification

2.2 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

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.
7500 Series PA Tuning 2 H290 - May be corrosive to metals.
H314 - Causes severe skin burns and eye damage.
H335 - May cause respiratory irritation.

Precautionary statements

Prevention

: 7500 Series PA Tuning 1 P280 - Wear protective gloves, protective clothing and eye or face protection.
P273 - Avoid release to the environment.
7500 Series PA Tuning 2 P280 - Wear protective gloves, protective clothing and eye or face protection.

Response

: 7500 Series PA Tuning 1 P391 - Collect spillage.
P304 + P310 - IF INHALED: Immediately call a POISON CENTER or doctor.
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor.
7500 Series PA Tuning 2 P304 + P310 - IF INHALED: Immediately call a POISON CENTER or doctor.
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor.
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

Storage

: 7500 Series PA Tuning 1 Not applicable.
7500 Series PA Tuning 2 P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.

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.

Hazardous ingredients

: 7500 Series PA Tuning 1 nitric acid [C ≤ 70%]
7500 Series PA Tuning 2 hydrochloric acid and nitric acid [C ≤ 70%]

Supplemental label elements

: 7500 Series PA Tuning 1 Not applicable.
7500 Series PA Tuning 2 Not applicable.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

: 7500 Series PA Tuning 1 Not applicable.
7500 Series PA Tuning 2 Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings

: 7500 Series PA Tuning 1 Not applicable.
7500 Series PA Tuning 2 Not applicable.

SECTION 2: Hazards identification

Tactile warning of danger : 7500 Series PA Tuning 1 Not applicable.
7500 Series PA Tuning 2 Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : 7500 Series PA Tuning 1 This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
7500 Series PA Tuning 2 This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification : 7500 Series PA Tuning 1 Causes digestive tract burns.
7500 Series PA Tuning 2 Causes digestive tract burns.

SECTION 3: Composition/information on ingredients

3.1 Substances : 7500 Series PA Tuning 1 Mixture
7500 Series PA Tuning 2 Mixture

Product/ingredient name	Identifiers	%	Classification	Type
7500 Series PA Tuning 1 nitric acid [C ≤ 70%]	EC: 231-714-2 CAS: 7697-37-2 Index: 007-030-00-3	≤10	Ox. Liq. 3, H272 Met. Corr. 1, H290 Acute Tox. 3, H331 Skin Corr. 1A, H314 Eye Dam. 1, H318 EUH071	[1] [2]
cadmium (non-pyrophoric)	EC: 231-152-8 CAS: 7440-43-9 Index: 048-002-00-0	<0.0025	Acute Tox. 2, H330 Muta. 2, H341 Carc. 1B, H350 Repr. 2, H361fd STOT RE 1, H372 Aquatic Acute 1, H400 (M=10000) Aquatic Chronic 1, H410 (M=10000)	[1] [2] [3]
7500 Series PA Tuning 2 hydrochloric acid	EC: 231-595-7 CAS: 7647-01-0 Index: 017-002-01-X	≥10 - ≤25	Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335	[1] [2]
nitric acid [C ≤ 70%]	EC: 231-714-2 CAS: 7697-37-2 Index: 007-030-00-3	≤3	Ox. Liq. 3, H272 Met. Corr. 1, H290 Acute Tox. 3, H331 Skin Corr. 1A, H314 Eye Dam. 1, H318 EUH071	[1] [2]
hydrogen fluoride	EC: 231-634-8 CAS: 7664-39-3 Index: 009-002-00-6	<0.25	Acute Tox. 2, H300 Acute Tox. 1, H310 Acute Tox. 2, H330 Skin Corr. 1A, H314 See Section 16 for the full text of the H statements declared above.	[1] [2]

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type

SECTION 3: Composition/information on ingredients

7500 Series PA Tuning 1	[1] Substance classified with a health or environmental hazard [2] Substance with a workplace exposure limit [3] Substance of equivalent concern
7500 Series PA Tuning 2	[1] Substance classified with a health or environmental hazard [2] Substance with a workplace exposure limit

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

SECTION 4: First aid measures

4.1 Description of 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.
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.
	7500 Series PA Tuning 2	Get medical attention immediately. Call a poison center or physician. Wash contaminated skin with soap and water. Remove contaminated clothing and shoes. Wash

SECTION 4: First aid measures

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.

- Ingestion**
- : 7500 Series PA Tuning 1 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.
 - 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 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.
- 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.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

- 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 No specific data.
 - 7500 Series PA Tuning 2 Adverse symptoms may include the following:
respiratory tract irritation
coughing

SECTION 4: First aid measures

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

4.3 Indication of any immediate medical attention and special treatment needed

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.

SECTION 5: Firefighting measures

5.1 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.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture	: 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.
Hazardous combustion 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

5.3 Advice for firefighters

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

6.1 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 spilt material. Do not breathe vapour 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 spilt material. Do not breathe vapour 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 specialised 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 specialised 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".

6.2 Environmental precautions

: 7500 Series PA Tuning 1	Avoid dispersal of spilt 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 spilt 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).

6.3 Methods and material for containment and cleaning up

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

6.4 Reference to other sections

: See Section 1 for emergency contact information.
 See Section 8 for information on appropriate personal protective equipment.
 See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 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 vapour or mist. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material,
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SECTION 7: Handling and storage

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 vapour 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.

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.

7.2 Conditions for safe storage, including any incompatibilities

Storage

: 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 corrosive 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 unlabelled 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 corrosive 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Seveso Directive - Reporting thresholds

Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
7500 Series PA Tuning 1 E2	200 tonne	500 tonne

SECTION 7: Handling and storage

7.3 Specific end use(s)

Recommendations	:	7500 Series PA Tuning 1	Industrial applications, Professional applications.
		7500 Series PA Tuning 2	Industrial applications, Professional applications.
Industrial sector specific solutions	:	7500 Series PA Tuning 1	Not available.
		7500 Series PA Tuning 2	Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
7500 Series PA Tuning 1 nitric acid [C ≤ 70%]	EH40/2005 WELs (United Kingdom (UK), 1/2020). STEL: 2.6 mg/m ³ 15 minutes.
cadmium (non-pyrophoric)	EH40/2005 WELs (United Kingdom (UK), 1/2020). [Cadmium and cadmium compounds except cadmium oxide fume, cadmium sulphide and cadmium sulphide pigments] TWA: 0.025 mg/m ³ , (as Cd) 8 hours.
7500 Series PA Tuning 2 hydrochloric acid	EH40/2005 WELs (United Kingdom (UK), 1/2020). STEL: 8 mg/m ³ 15 minutes. Form: (gas and aerosol mists) STEL: 5 ppm 15 minutes. Form: (gas and aerosol mists) TWA: 2 mg/m ³ 8 hours. Form: (gas and aerosol mists) TWA: 1 ppm 8 hours. Form: (gas and aerosol mists)
nitric acid [C ≤ 70%]	EH40/2005 WELs (United Kingdom (UK), 1/2020). STEL: 2.6 mg/m ³ 15 minutes. STEL: 1 ppm 15 minutes.
hydrogen fluoride	EH40/2005 WELs (United Kingdom (UK), 1/2020). STEL: 2.5 mg/m ³ , (as F) 15 minutes. STEL: 3 ppm, (as F) 15 minutes. TWA: 1.5 mg/m ³ , (as F) 8 hours. TWA: 1.8 ppm, (as F) 8 hours.

Biological exposure indices

No exposure indices known.

Recommended monitoring procedures : Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
7500 Series PA Tuning 1 cadmium (non-pyrophoric)	DNEL	Long term Oral	1 µg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	4 µg/m ³	Workers	Local
7500 Series PA Tuning 2 hydrochloric acid	DNEL	Long term Inhalation	8 mg/m ³	General population	Local
	DNEL	Long term Inhalation	8 mg/m ³	Workers	Local
	DNEL	Short term Inhalation	15 mg/m ³	General population	Local
	DNEL	Short term Inhalation	15 mg/m ³	Workers	Local
hydrogen fluoride	DNEL	Short term Oral	0.01 mg/kg bw/day	General population	Systemic

SECTION 8: Exposure controls/personal protection

	DNEL	Long term Oral	0.01 mg/kg bw/day	General population	Systemic
	DNEL	Short term Inhalation	0.03 mg/m ³	General population	Systemic
	DNEL	Long term Inhalation	0.03 mg/m ³	General population	Systemic
	DNEL	Long term Inhalation	0.2 mg/m ³	General population	Local
	DNEL	Short term Inhalation	1.25 mg/m ³	General population	Local
	DNEL	Long term Inhalation	1.5 mg/m ³	Workers	Local
	DNEL	Long term Inhalation	1.5 mg/m ³	Workers	Systemic
	DNEL	Short term Inhalation	2.5 mg/m ³	Workers	Local
	DNEL	Short term Inhalation	2.5 mg/m ³	Workers	Systemic

PNECs

No PNECs available

8.2 Exposure controls

Appropriate engineering controls : User operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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.

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.

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.

SECTION 9: Physical and chemical properties

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

9.1 Information on basic physical and chemical properties

Appearance

Physical state	:	7500 Series PA Tuning 1	Liquid.
		7500 Series PA Tuning 2	Liquid.
Colour	:	7500 Series PA Tuning 1	Not available.
		7500 Series PA Tuning 2	Not available.
Odour	:	7500 Series PA Tuning 1	Not available.
		7500 Series PA Tuning 2	Not available.
Odour threshold	:	7500 Series PA Tuning 1	Not available.
		7500 Series PA Tuning 2	Not available.
Melting point/freezing point	:	7500 Series PA Tuning 1	Not available.
		7500 Series PA Tuning 2	Not available.
Initial boiling point and boiling range	:	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.
Upper/lower flammability or explosive limits	:	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.
Auto-ignition temperature	:	Not available.	
Decomposition temperature	:	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
Viscosity	:	7500 Series PA Tuning 1	Not available.
		7500 Series PA Tuning 2	Not available.

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	Not applicable.
		7500 Series PA Tuning 2	Not applicable.

Vapour pressure	Ingredient name	Vapour Pressure at 20°C			Vapour 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	-

Evaporation rate	:	7500 Series PA Tuning 1	Not available.
		7500 Series PA Tuning 2	Not available.

SECTION 9: Physical and chemical properties

Relative density	:	7500 Series PA Tuning 1	Not available.
		7500 Series PA Tuning 2	Not available.
Vapour density	:	7500 Series PA Tuning 1	Not available.
		7500 Series PA Tuning 2	Not available.
Explosive properties	:	7500 Series PA Tuning 1	Not available.
		7500 Series PA Tuning 2	Not available.
Oxidising properties	:	7500 Series PA Tuning 1	Not available.
		7500 Series PA Tuning 2	Not available.

Particle characteristics

Median particle size	:	7500 Series PA Tuning 1	Not applicable.
		7500 Series PA Tuning 2	Not applicable.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

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

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

SECTION 11: Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
7500 Series PA Tuning 1 nitric acid [C ≤ 70%] cadmium (non-pyrophoric)	LC50 Inhalation Vapour	Rat	2500 ppm	1 hours
	LC50 Inhalation Vapour	Rat	130 mg/m ³	4 hours
	LD50 Oral	Rat	225 mg/kg	-
7500 Series PA Tuning 2 hydrochloric acid nitric acid [C ≤ 70%] hydrogen fluoride	LC50 Inhalation Gas.	Rat	3124 ppm	1 hours
	LC50 Inhalation Vapour	Rat	2500 ppm	1 hours
	LC50 Inhalation Vapour	Rat	130 mg/m ³	4 hours
	LC50 Inhalation Gas.	Rat	638 ppm	4 hours

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
7500 Series PA Tuning 1 7500 Series PA Tuning 1 nitric acid [C ≤ 70%] cadmium (non-pyrophoric)	N/A	N/A	N/A	53.0	32.2
	N/A	N/A	N/A	2.65	1.61125
	N/A	N/A	N/A	N/A	0.05
7500 Series PA Tuning 2 7500 Series PA Tuning 2 nitric acid [C ≤ 70%] hydrogen fluoride	5000	5000	N/A	173.2	161.1
	N/A	N/A	N/A	2.65	1.61125
	5	5	N/A	0.5	N/A

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
7500 Series PA Tuning 2 hydrogen fluoride	Skin - Severe irritant	Rat	-	3 minutes 50 %	-

Sensitiser

Conclusion/Summary : Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Product/ingredient 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)

Product/ingredient name	Category	Route of exposure	Target organs
7500 Series PA Tuning 1 cadmium (non-pyrophoric)	Category 1	-	-

Aspiration hazard

SECTION 11: Toxicological information

Not available.

Information on 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

Inhalation : 7500 Series PA Tuning 1 No known significant effects or critical hazards.
7500 Series PA Tuning 2 May cause respiratory irritation.

Ingestion : 7500 Series PA Tuning 1 Corrosive to the digestive tract. Causes burns.
7500 Series PA Tuning 2 Corrosive to the digestive tract. Causes burns.

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

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

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation : 7500 Series PA Tuning 1 No specific data.
7500 Series PA Tuning 2 Adverse symptoms may include the following:
respiratory tract irritation
coughing

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

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

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

Delayed and immediate effects as well as 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.

Potential chronic health effects

Conclusion/Summary : Not available.

General : 7500 Series PA Tuning 1 No known significant effects or critical hazards.
7500 Series PA Tuning 2 No known significant effects or critical hazards.

Carcinogenicity : 7500 Series PA Tuning 1 No known significant effects or critical hazards.
7500 Series PA Tuning 2 No known significant effects or critical hazards.

Mutagenicity : 7500 Series PA Tuning 1 No known significant effects or critical hazards.
7500 Series PA Tuning 2 No known significant effects or critical hazards.

SECTION 11: Toxicological information

Reproductive toxicity : 7500 Series PA Tuning 1 No known significant effects or critical hazards.
7500 Series PA Tuning 2 No known significant effects or critical hazards.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
7500 Series PA Tuning 1 nitric acid [C ≤ 70%] cadmium (non-pyrophoric)	Acute LC50 180000 µg/l Marine water	Crustaceans - Green crab - <i>Carcinus maenas</i> - Adult	48 hours
	Acute EC50 0.095 mg/l Marine water	Algae - Green algae - <i>Ulva pertusa</i>	96 hours
	Acute EC50 200 µg/l Fresh water	Aquatic plants - Duckweed - <i>Lemna minor</i>	4 days
	Acute EC50 13.5 µg/l Fresh water	Daphnia - Water flea - <i>Daphnia magna</i> - Neonate	48 hours
	Acute LC50 0.072 µg/l Marine water	Crustaceans - Scud Order - <i>Amphipoda</i> - Adult	48 hours
	Acute LC50 1 µg/l Fresh water	Fish - Fathead minnow - <i>Pimephales promelas</i> - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Chronic NOEC 2 µg/l Fresh water	Algae - Green algae - <i>Parachlorella kessleri</i> - Exponential growth phase	72 hours
7500 Series PA Tuning 2 hydrochloric acid nitric acid [C ≤ 70%]	Chronic NOEC 0.02 µg/l Fresh water	Fish - common carp - <i>Cyprinus carpio</i>	4 weeks
	Acute LC50 240000 µg/l Marine water	Crustaceans - Green crab - <i>Carcinus maenas</i> - Adult	48 hours
	Acute LC50 282 ppm Fresh water	Fish - Western mosquitofish - <i>Gambusia affinis</i> - Adult	96 hours
	Acute LC50 180000 µg/l Marine water	Crustaceans - Green crab - <i>Carcinus maenas</i> - Adult	48 hours

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Conclusion/Summary : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
7500 Series PA Tuning 1 nitric acid [C ≤ 70%]	-	-	Readily
7500 Series PA Tuning 2 nitric acid [C ≤ 70%]	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
7500 Series PA Tuning 1 nitric acid [C ≤ 70%]	-0.21	-	Low
7500 Series PA Tuning 2 nitric acid [C ≤ 70%]	-0.21	-	Low

12.4 Mobility in soil

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

Mobility : Not available.

SECTION 12: Ecological information

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

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

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised 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.




Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : 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

	ADR/RID	IMDG	IATA
14.1 UN number	UN3264	UN3264	UN3264
14.2 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)
14.3 Transport hazard class(es)	8 	8 	8 
14.4 Packing group	III	III	III
14.5 Environmental hazards	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.

Additional information

ADR/RID : The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.

Hazard identification number 80

Limited quantity 5 L

Special provisions 274

Tunnel code (E)

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

SECTION 14: Transport information

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

14.6 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.

14.7 Transport in bulk according to IMO instruments : Not available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture UK (GB)/REACH

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

Intrinsic property	Ingredient name	Status	Reference number	Date of revision
7500 Series PA Tuning 1 Carcinogen Substance of equivalent concern for human health	cadmium cadmium	Candidate Candidate	- -	6/20/2013 6/20/2013

Ozone depleting substances

Not listed.

Prior Informed Consent (PIC)

Not listed.

Persistent Organic Pollutants


Not listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles


Product / Ingredient name	Identifiers	Status
7500 Series PA Tuning 1 7500 Series PA Tuning 1 arsenic	- EC: 231-148-6 CAS: 7440-38-2 Index: 033-001-00-X	3 19 [Treated wood]
nickel powder	EC: 231-111-4 CAS: 7440-02-0 Index: 028-002-01-4	27
lead powder	EC: 231-100-4 CAS: 7439-92-1 Index: 082-013-00-1	72
7500 Series PA Tuning 2 7500 Series PA Tuning 2	-	3

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

SECTION 15: Regulatory information

Label :  7500 Series PA Tuning 1 Not applicable.
7500 Series PA Tuning 2 Not applicable.

Seveso Directive

 This product is controlled under the Seveso Directive.

Danger criteria

Category

 7500 Series PA Tuning 1
E2

National regulations

Product/ingredient name	List name	Name on list	Classification	Notes
7500 Series PA Tuning 1 cadmium (non-pyrophoric)	UK Occupational Exposure Limits EH40 - WEL	Cadmium and cadmium compounds except cadmium oxide fume, cadmium sulphide and cadmium sulphide pigments as Cd	Carc.	-

EU regulations

Industrial emissions (integrated pollution prevention and control) - Air : Listed

Industrial emissions (integrated pollution prevention and control) - Water : Not listed

15.2 Chemical safety assessment : This product contains substances for which Chemical Safety Assessments might still be required.

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

United States :  Not determined.

SECTION 16: Other information

 Indicates information that has changed from previously issued version.

SECTION 16: Other information

Abbreviations and acronyms

- : ATE = Acute Toxicity Estimate
- CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
- DMEL = Derived Minimal Effect Level
- DNEL = Derived No Effect Level
- EUH statement = CLP-specific Hazard statement
- N/A = Not available
- PBT = Persistent, Bioaccumulative and Toxic
- PNEC = Predicted No Effect Concentration
- RRN = REACH Registration Number
- vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification

Classification	Justification
7500 Series PA Tuning 1 Met. Corr. 1, H290 Skin Corr. 1, H314 Aquatic Chronic 2, H411	Expert judgment On basis of test data Calculation method
7500 Series PA Tuning 2 Met. Corr. 1, H290 Skin Corr. 1, H314 STOT SE 3, H335	Expert judgment On basis of test data Calculation method

Full text of abbreviated H statements

7500 Series PA Tuning 1	
H272	May intensify fire; oxidiser.
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
EUH071	Corrosive to the respiratory tract.
7500 Series PA Tuning 2	
H272	May intensify fire; oxidiser.
H290	May be corrosive to metals.
H300	Fatal if swallowed.
H310	Fatal in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
EUH071	Corrosive to the respiratory tract.

Full text of classifications

SECTION 16: Other information

7500 Series PA

Tuning 1

Acute Tox. 2	ACUTE TOXICITY - Category 2
Acute Tox. 3	ACUTE TOXICITY - Category 3
Aquatic Acute 1	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
Aquatic Chronic 1	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Carc. 1B	CARCINOGENICITY - Category 1B
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Met. Corr. 1	CORROSIVE TO METALS - Category 1
Muta. 2	GERM CELL MUTAGENICITY - Category 2
Ox. Liq. 3	OXIDISING LIQUIDS - Category 3
Repr. 2	REPRODUCTIVE TOXICITY - Category 2
Skin Corr. 1	SKIN CORROSION/IRRITATION - Category 1
Skin Corr. 1A	SKIN CORROSION/IRRITATION - Category 1A
STOT RE 1	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 1

7500 Series PA

Tuning 2

Acute Tox. 1	ACUTE TOXICITY - Category 1
Acute Tox. 2	ACUTE TOXICITY - Category 2
Acute Tox. 3	ACUTE TOXICITY - Category 3
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Met. Corr. 1	CORROSIVE TO METALS - Category 1
Ox. Liq. 3	OXIDISING LIQUIDS - Category 3
Skin Corr. 1	SKIN CORROSION/IRRITATION - Category 1
Skin Corr. 1A	SKIN CORROSION/IRRITATION - Category 1A
Skin Corr. 1B	SKIN CORROSION/IRRITATION - Category 1B
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

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