SAFETY DATA SHEET
ICP/MS Tuning Solution 10ug/L, Part Number 5184-3566

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

1.1 Product identifier

Product name: ICP/MS Tuning Solution 10ug/L, Part Number 5184-3566
Part no.: 5184-3566

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

Identified uses: Reagents and Standards for Analytical Chemistry Laboratory Use
A set of 2 x 500 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
0800 603 1000

1.4 Emergency telephone number

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

date of issue/date of revision: 1/13

date of previous issue: 31/01/2022

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

H290 CORROSIVE TO METALS Category 1
H315 SKIN CORROSION/IRRITATION Category 2
H319 SERIOUS EYE DAMAGE/EYE IRRITATION Category 2

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.

2.2 Label elements

Hazard pictograms: ⬆️

Signal word: Warning
Hazard statements:
H290 - May be corrosive to metals.
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.

Precautionary statements
Prevention:
P280 - Wear protective gloves. Wear eye or face protection.
P234 - Keep only in original packaging.
P264 - Wash thoroughly after handling.
SECTION 2: Hazards identification

Response:
- P390 - Absorb spillage to prevent material damage.
- P362 + P364 - Take off contaminated clothing and wash it before reuse.
- P302 + P352 - IF ON SKIN: Wash with plenty of water.
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337 + P313 - If eye irritation persists: Get medical advice or attention.

Storage:
Not applicable.

Disposal:
Not applicable.

Supplemental label elements:
- Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles:
  Not applicable.

Special packaging requirements:
- Containers to be fitted with child-resistant fastenings:
  Not applicable.
- Tactile warning of danger:
  Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII:
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:
None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures:
Mixture

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Identifiers</th>
<th>%</th>
<th>Classification</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thallium compounds</td>
<td>EC: 233-273-1 CAS: 10102-45-1 Index: 081-002-00-9</td>
<td>&lt;0.1</td>
<td>Acute Tox. 2, H300 Acute Tox. 2, H330 STOT RE 2, H373 Aquatic Chronic 2, H411</td>
<td>[1] [2]</td>
</tr>
</tbody>
</table>
SECTION 3: Composition/information on ingredients

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type
[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: 
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. Get medical attention.

Inhalation: 
Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. Get medical attention if adverse health effects persist or are severe. 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: 
Wash contaminated skin with soap and water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion: 
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. Get medical attention if adverse health effects persist or are severe. 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: 
No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

Eye contact: 
Adverse symptoms may include the following: pain or irritation
watering
redness

Inhalation: 
No specific data.

Skin contact: 
Adverse symptoms may include the following: irritation
redness

Ingestion: 
No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician: 
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: 
No specific treatment.
SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing media: Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media: None known.

5.2 Special hazards arising from the substance or mixture
Hazards from the substance or mixture: In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous combustion products: Decomposition products may include the following materials: nitrogen oxides

5.3 Advice for firefighters
Special protective actions for fire-fighters: 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: 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: 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. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders: 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: 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: 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: Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. 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:
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:
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. 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.

7.3 Specific end use(s)
Recommendations:
Industrial sector specific solutions:
Not available.

Industrial applications, Professional applications.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Exposure limit values</th>
</tr>
</thead>
<tbody>
<tr>
<td>nitric acid [C ≤ 70 %]</td>
<td>EH40/2005 WELs (United Kingdom (UK), 1/2020).</td>
</tr>
<tr>
<td></td>
<td>STEL: 2.6 mg/m³ 15 minutes.</td>
</tr>
<tr>
<td></td>
<td>STEL: 1 ppm 15 minutes.</td>
</tr>
<tr>
<td>cobalt</td>
<td>EH40/2005 WELs (United Kingdom (UK), 1/2020). [cobalt and</td>
</tr>
<tr>
<td></td>
<td>cobalt compounds] Inhalation sensitiser.</td>
</tr>
<tr>
<td></td>
<td>TWA: 0.1 mg/m³, (as Co) 8 hours.</td>
</tr>
<tr>
<td>Yttrium</td>
<td>EH40/2005 WELs (United Kingdom (UK), 1/2020).</td>
</tr>
<tr>
<td></td>
<td>STEL: 3 mg/m³ 15 minutes.</td>
</tr>
<tr>
<td></td>
<td>TWA: 1 mg/m³ 8 hours.</td>
</tr>
<tr>
<td>thallium compounds</td>
<td>EH40/2005 WELs (United Kingdom (UK), 1/2020). [thallium,</td>
</tr>
<tr>
<td></td>
<td>soluble compounds] Absorbed through skin.</td>
</tr>
<tr>
<td></td>
<td>TWA: 0.1 mg/m³, (as TI) 8 hours.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Type</th>
<th>Exposure</th>
<th>Value</th>
<th>Population</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>cobalt</td>
<td>DNEL</td>
<td>Long term Inhalation</td>
<td>6.3 µg/m³</td>
<td>General population</td>
<td>Local</td>
</tr>
<tr>
<td>cobalt</td>
<td>DNEL</td>
<td>Long term Oral</td>
<td>29.8 µg/kg bw/day</td>
<td>General population</td>
<td>Systemic</td>
</tr>
<tr>
<td>cobalt</td>
<td>DNEL</td>
<td>Long term Inhalation</td>
<td>40 µg/m³</td>
<td>Workers</td>
<td>Local</td>
</tr>
</tbody>
</table>

PNECs
No PNECs available
SECTION 8: Exposure controls/personal protection

8.2 Exposure controls
Appropriate engineering controls

Individual protection measures

Hygiene measures
Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Hand protection
Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. 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.

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. 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. 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.

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.

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.

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

Physical state
Liquid.

Colour
Colourless to light yellow.

Odour
Odourless.

Odour threshold
Not available.

Melting point/freezing point
0°C

Initial boiling point and boiling range
100°C

Flammability
Not applicable.

Upper/lower flammability or explosive limits
Not available.

Flash point
Not available.

Auto-ignition temperature
Not available.
SECTION 9: Physical and chemical properties

Decomposition temperature : Not available.

pH : 1

Viscosity : Not available.

Solubility(ies) : Media Result
Water Soluble

Miscible with water : Yes.

Partition coefficient: n-octanol/water : Not applicable.

Vapour pressure : 

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Vapour Pressure at 20°C mm Hg kPa Method</th>
<th>Vapour pressure at 50°C mm Hg kPa Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>nitric acid</td>
<td>48 6.4 Method</td>
<td></td>
</tr>
<tr>
<td>water</td>
<td>23.8 3.2 Method</td>
<td>92.258 12.3</td>
</tr>
</tbody>
</table>

Evaporation rate : >1 (butyl acetate = 1)

Relative density : 1.008

Density : 1.008 g/cm³

Vapour density : Not available.

Explosive properties : Not available.

Oxidising properties : Not available.

Particle characteristics

Median particle size : Not applicable.

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability : The product is stable.

10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : No specific data.

10.5 Incompatible materials : Attacks many metals producing extremely flammable hydrogen gas which can form explosive mixtures with air. Reactive or incompatible with the following materials:
alkalis
metals
Reactive or incompatible with the following materials: oxidising materials.

10.6 Hazardous decomposition products : 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**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>nitric acid [C ≤ 70 %]</td>
<td>LC50 Inhalation Vapour</td>
<td>Rat</td>
<td>2500 ppm</td>
<td>1 hours</td>
</tr>
<tr>
<td>Cobalt</td>
<td>LC50 Inhalation Vapour</td>
<td>Rat</td>
<td>130 mg/m³</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LC50 Inhalation Dusts and mists</td>
<td>Rat - Male, Female</td>
<td>≤0.05 mg/l</td>
<td>4 hours</td>
</tr>
<tr>
<td>Yttrium</td>
<td>LD50 Dermal</td>
<td>Rat - Male, Female</td>
<td>&gt;2000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat - Female</td>
<td>550 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat - Male</td>
<td>&gt;2000 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

**Acute toxicity estimates**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Oral (mg/kg)</th>
<th>Dermal (mg/kg)</th>
<th>Inhalation (gases) (ppm)</th>
<th>Inhalation (vapours) (mg/l)</th>
<th>Inhalation (dusts and mists) (mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICP/MS Tuning Solution 10ug/L, Part Number 5184-3566</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>132.5</td>
<td>N/A</td>
</tr>
<tr>
<td>nitric acid [C ≤ 70 %]</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>2.65</td>
<td>N/A</td>
</tr>
<tr>
<td>thallium compounds</td>
<td>5</td>
<td>N/A</td>
<td>N/A</td>
<td>0.05</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Irritation/Corrosion**

**Conclusion/Summary** : Not available.

**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)**

Not available.

**Specific target organ toxicity (repeated exposure)**

Not available.

**Aspiration hazard**

Not available.

**Information on likely routes of exposure**

Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

**Potential acute health effects**

**Inhalation** : No known significant effects or critical hazards.

**Ingestion** : No known significant effects or critical hazards.

**Skin contact** : Causes skin irritation.

**Eye contact** : Causes serious eye irritation.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Inhalation** : No specific data.

**Ingestion** : No specific data.
SECTION 11: Toxicological information

Skin contact:
- Adverse symptoms may include the following:
  - irritation
  - redness

Eye contact:
- Adverse symptoms may include the following:
  - pain or irritation
  - 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**
- General: No known significant effects or critical hazards.
- Carcinogenicity: No known significant effects or critical hazards.
- Mutagenicity: No known significant effects or critical hazards.
- Reproductive toxicity: No known significant effects or critical hazards.

SECTION 12: Ecological information

### 12.1 Toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>nitric acid [C ≤ 70 %]</td>
<td>Acute LC50 180000 μg/l Marine water</td>
<td>Crustaceans - Green crab - Carcinus maenas - Adult</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 72 ppm Fresh water</td>
<td>Fish - Western mosquitofish - Gambusia affinis - Adult</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 0.144 mg/l Fresh water</td>
<td>Algae</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 4400 μg/l Fresh water</td>
<td>Daphnia - Water flea - Daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 3.4 mg/l Fresh water</td>
<td>Fish - Fathead minnow - Pimephales promelas</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 0.89 μg/l Fresh water</td>
<td>Daphnia - Water flea - Daphnia magna - Neonate</td>
<td>21 days</td>
</tr>
<tr>
<td>cobalt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>thallium compounds</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 12.2 Persistence and degradability

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Aquatic half-life</th>
<th>Photolysis</th>
<th>Biodegradability</th>
</tr>
</thead>
<tbody>
<tr>
<td>nitric acid [C ≤ 70 %]</td>
<td>-</td>
<td>-</td>
<td>Readily</td>
</tr>
</tbody>
</table>

### 12.3 Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP&lt;sub&gt;ow&lt;/sub&gt;</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>nitric acid [C ≤ 70 %]</td>
<td>-0.21</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>cobalt</td>
<td>-0.21</td>
<td>15600</td>
<td>high</td>
</tr>
</tbody>
</table>

### 12.4 Mobility in soil

| Soil/water partition coefficient (K<sub>OC</sub>) | Not available. |
| Mobility                                       | Not available.  |
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
Packaging
Methods of disposal: The classification of the product may meet the criteria for a hazardous waste.

Special precautions: 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.

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 spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

<table>
<thead>
<tr>
<th>ADR/RID</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1 UN number</td>
<td>UN3264</td>
<td>UN3264</td>
</tr>
<tr>
<td>14.2 UN proper shipping name</td>
<td>CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (nitric acid, solution)</td>
<td>CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (nitric acid, solution)</td>
</tr>
<tr>
<td>14.3 Transport hazard class(es)</td>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>

Additional information

ADR/RID: Hazard identification number 80
Limited quantity 5 L
Special provisions 274
Tunnel code (E)

IMDG: Emergency schedules F-A, S-B
Special provisions 223, 274

Special provisions A3, A803
SECTION 14: Transport information

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
None of the components are listed.

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
Not listed.

Label: Not applicable.

Seveso Directive
This product is not controlled under the Seveso Directive.

National regulations

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>List name</th>
<th>Name on list</th>
<th>Classification</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>cobalt</td>
<td>UK Occupational Exposure Limits EH40 - WEL</td>
<td>cobalt and cobalt compounds as Co</td>
<td>Carc.</td>
<td>-</td>
</tr>
</tbody>
</table>

EU regulations

Industrial emissions (integrated pollution prevention and control) - Air
Not 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

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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
Australia: Not determined.
Canada: At least one component is not listed in DSL but all such components are listed in NDSL.
China: All components are listed or exempted.
Eurasian Economic Union: Russian Federation inventory: All components are listed or exempted.
Japan: Japan inventory (CSCL): Not determined.
Japan inventory (ISHL): All components are listed or exempted.
New Zealand: All components are listed or exempted.
Philippines: All components are listed or exempted.
Republic of Korea: All components are listed or exempted.
Taiwan: Not determined.
United States: All components are active or exempted.
Viet Nam: All components are listed or exempted.

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

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Irrit. 2, H315</td>
<td>Expert judgment</td>
</tr>
<tr>
<td>Eye Irrit. 2, H319</td>
<td>Expert judgment</td>
</tr>
</tbody>
</table>

Full text of abbreviated H statements

H228 Flammable solid.
H272 May intensify fire; oxidiser.
H290 May be corrosive to metals.
H300 Fatal if swallowed.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.

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### SECTION 16: Other information

<table>
<thead>
<tr>
<th>H330</th>
<th>Fatal if inhaled.</th>
</tr>
</thead>
<tbody>
<tr>
<td>H331</td>
<td>Toxic if inhaled.</td>
</tr>
<tr>
<td>H334</td>
<td>May cause allergy or asthma symptoms or breathing difficulties if inhaled.</td>
</tr>
<tr>
<td>H341</td>
<td>Suspected of causing genetic defects.</td>
</tr>
<tr>
<td>H350</td>
<td>May cause cancer.</td>
</tr>
<tr>
<td>H360F</td>
<td>May damage fertility.</td>
</tr>
<tr>
<td>H373</td>
<td>May cause damage to organs through prolonged or repeated exposure.</td>
</tr>
<tr>
<td>H411</td>
<td>Toxic to aquatic life with long lasting effects.</td>
</tr>
<tr>
<td>H413</td>
<td>May cause long lasting harmful effects to aquatic life.</td>
</tr>
<tr>
<td>EUH071</td>
<td>Corrosive to the respiratory tract.</td>
</tr>
</tbody>
</table>

**Full text of classifications**

| Acute Tox. 2 | ACUTE TOXICITY - Category 2 |
| Acute Tox. 3 | ACUTE TOXICITY - Category 3 |
| Aquatic Chronic 2 | LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2 |
| Aquatic Chronic 4 | LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 4 |
| Carc. 1B | CARCINOGENICITY - Category 1B |
| Eye Dam. 1 | SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1 |
| Eye Irrit. 2 | SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 |
| Flam. Sol. 2 | FLAMMABLE SOLIDS - Category 2 |
| Met. Corr. 1 | CORROSIVE TO METALS - Category 1 |
| Muta. 2 | GERM CELL MUTAGENICITY - Category 2 |
| Ox. Liqu. 3 | OXIDISING LIQUIDS - Category 3 |
| Repr. 1B | REPRODUCTIVE TOXICITY - Category 1B |
| Resp. Sens. 1 | RESPIRATORY SENSITISATION - Category 1 |
| Skin Corr. 1A | SKIN CORROSION/IRRITATION - Category 1A |
| Skin Irrit. 2 | SKIN CORROSION/IRRITATION - Category 2 |
| Skin Sens. 1 | SKIN SENSITISATION - Category 1 |
| STOT RE 2 | SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2 |

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