SAFETY DATA SHEET
Gas Clean Filter Kit for TCD, Part Number CP738408

Section 1. Identification

This product is considered an article. This Safety Data Sheet is written based on the encapsulated substance or mixture in this article.

Product identifier: Gas Clean Filter Kit for TCD, Part Number CP738408
Part no. (chemical kit): CP738408
Part no.: Gas Clean Filter Oxygen CP17970
Gas Clean Filter Moisture CP17971

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

Material uses: Analytical chemistry.
Gas Clean Filter Oxygen 1 x 200 ml
Gas Clean Filter Moisture 1 x 200 ml

Supplier/Manufacturer: Agilent Technologies Australia Pty Ltd
679 Springvale Road
Mulgrave
Victoria 3170, Australia
1800 802 402

Emergency telephone number (with hours of operation): CHEMTREC®: +(61)-290372994

Section 2. Hazard(s) identification

This article, when used under reasonable conditions and in accordance with the directions for use, should not present a health hazard. The substance or mixture is encapsulated in the article. Only if released due to use or processing of the article in a manner not in accordance with the product's directions for use it may present potential health and safety hazards.

Classification of the substance or mixture

Gas Clean Filter Oxygen
H332 ACUTE TOXICITY (inhalation) - Category 4
H350 CARCINOGENICITY - Category 1
H373 SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
H411 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2

Gas Clean Filter Moisture
H350 CARCINOGENICITY - Category 1
H373 SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2

Percentage of the mixture consisting of ingredient(s)
of unknown acute inhalation toxicity: > 60%
Percentage of the mixture consisting of ingredient(s)
of unknown hazards to the aquatic environment: 100%

GHS label elements

Date of issue/Date of revision: 09/11/2021
Date of previous issue: No previous validation
Version: 1
Gas Clean Filter Kit for TCD, Part Number CP738408

Section 2. Hazard(s) identification

Hazard pictograms : Gas Clean Filter Oxygen

Gas Clean Filter Moisture

Signal word : Gas Clean Filter Oxygen DANGER
Gas Clean Filter Moisture DANGER

Hazard statements : Gas Clean Filter Oxygen
H332 - Harmful if inhaled.
H350 - May cause cancer.
H373 - May cause damage to organs through prolonged or repeated exposure.
H411 - Toxic to aquatic life with long lasting effects.

Gas Clean Filter Moisture
H350 - May cause cancer.
H373 - May cause damage to organs through prolonged or repeated exposure. (lungs)

Precautionary statements

Prevention : Gas Clean Filter Oxygen
P201 - Obtain special instructions before use.
P281 - Use personal protective equipment as required.
P273 - Avoid release to the environment.
P260 - Do not breathe dust.

Gas Clean Filter Moisture
P201 - Obtain special instructions before use.
P281 - Use personal protective equipment as required.
P260 - Do not breathe dust.

Response : Gas Clean Filter Oxygen
P391 - Collect spillage.

Gas Clean Filter Moisture
P308 + P313 - IF exposed or concerned: Get medical advice or attention.

Storage : Gas Clean Filter Oxygen
Not applicable.

Gas Clean Filter Moisture
Not applicable.

Disposal : Gas Clean Filter Oxygen
P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Gas Clean Filter Moisture
P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements

Additional warning phrases : Gas Clean Filter Oxygen
Not applicable.

Gas Clean Filter Moisture
Not applicable.

Other hazards which do not result in classification : Gas Clean Filter Oxygen None known.

Gas Clean Filter Moisture None known.

Section 3. Composition and ingredient information

This article, when used under reasonable conditions and in accordance with the directions for use, should not present a health hazard. The substance or mixture is encapsulated in the article. Only if released due to use or processing of the article in a manner not in accordance with the product’s directions for use it may present potential health and safety hazards.

Substance/mixture : Gas Clean Filter Oxygen
Mixture (encapsulated in article)

Gas Clean Filter Moisture
Mixture (encapsulated in article)

CAS number/other identifiers

Date of issue/Date of revision : 09/11/2021
Date of previous issue : No previous validation
Version : 1
Section 3. Composition and ingredient information

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>% (w/w)</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gas Clean Filter Oxygen</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>aluminium oxide</td>
<td>≥75 - ≤90</td>
<td>1344-28-1</td>
</tr>
<tr>
<td>Copper oxide, Activated</td>
<td>≤10</td>
<td>1317-38-0</td>
</tr>
<tr>
<td>Manganese dioxide</td>
<td>&lt;10</td>
<td>1313-13-9</td>
</tr>
<tr>
<td>nickel monoxide</td>
<td>&lt;1</td>
<td>1313-99-1</td>
</tr>
<tr>
<td><strong>Gas Clean Filter Moisture</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>crystalline silica, respirable powder</td>
<td>&lt;10</td>
<td>14808-60-7</td>
</tr>
<tr>
<td>cristobalite</td>
<td>&lt;10</td>
<td>14464-46-1</td>
</tr>
</tbody>
</table>

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 and hence require reporting in this section.

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

Section 4. First aid measures

<table>
<thead>
<tr>
<th>Description of necessary first aid measures</th>
<th>Eye contact</th>
<th>Skin contact</th>
<th>Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Clean Filter Oxygen</td>
<td>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.</td>
<td></td>
<td>Gas Clean Filter Oxygen</td>
</tr>
<tr>
<td>Gas Clean Filter Moisture</td>
<td>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.</td>
<td></td>
<td>Gas Clean Filter Moisture</td>
</tr>
</tbody>
</table>

Flush contaminated skin with plenty of 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. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at
**Section 4. First aid measures**

**Gas Clean Filter Kit for TCD, Part Number CP738408**

**Ingestion**

Gas Clean Filter Oxygen

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. 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.

Gas Clean Filter Moisture

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. 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**

<table>
<thead>
<tr>
<th>Eye contact</th>
<th>Gas Clean Filter Oxygen</th>
<th>No known significant effects or critical hazards.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gas Clean Filter Moisture</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Gas Clean Filter Oxygen</td>
<td>Harmful if inhaled.</td>
</tr>
<tr>
<td></td>
<td>Gas Clean Filter Moisture</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>Gas Clean Filter Oxygen</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>Gas Clean Filter Moisture</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Gas Clean Filter Oxygen</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>Gas Clean Filter Moisture</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

**Over-exposure signs/symptoms**

<table>
<thead>
<tr>
<th>Eye contact</th>
<th>Gas Clean Filter Oxygen</th>
<th>No specific data.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gas Clean Filter Moisture</td>
<td>No specific data.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Gas Clean Filter Oxygen</td>
<td>No specific data.</td>
</tr>
<tr>
<td></td>
<td>Gas Clean Filter Moisture</td>
<td>No specific data.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>Gas Clean Filter Oxygen</td>
<td>No specific data.</td>
</tr>
<tr>
<td></td>
<td>Gas Clean Filter Moisture</td>
<td>No specific data.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Gas Clean Filter Oxygen</td>
<td>No specific data.</td>
</tr>
<tr>
<td></td>
<td>Gas Clean Filter Moisture</td>
<td>No specific data.</td>
</tr>
</tbody>
</table>

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

| Notes to physician | Gas Clean Filter Oxygen | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
|                    | Gas Clean Filter Moisture| Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |

| Specific treatments | Gas Clean Filter Oxygen | No specific treatment. |
|                     | Gas Clean Filter Moisture| No specific treatment. |
Section 4. First aid measures

Protection of first-aiders: Gas Clean Filter Oxygen
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.

Gas Clean Filter Moisture
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. Firefighting measures

Extinguishing media

Suitable extinguishing media: Gas Clean Filter Oxygen
Use an extinguishing agent suitable for the surrounding fire.
Gas Clean Filter Moisture
Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media: Gas Clean Filter Oxygen
None known.
Gas Clean Filter Moisture
None known.

Specific hazards arising from the chemical: Gas Clean Filter Oxygen
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.
Gas Clean Filter Moisture
No specific fire or explosion hazard.

Hazardous thermal decomposition products: Gas Clean Filter Oxygen
Decomposition products may include the following materials:
metal oxide/oxides
Gas Clean Filter Moisture
Decomposition products may include the following materials:
metal oxide/oxides

Special protective actions for fire-fighters: Gas Clean Filter Oxygen
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.
Gas Clean Filter Moisture
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: Gas Clean Filter Oxygen
Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Gas Clean Filter Moisture
Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Hazchem code: Gas Clean Filter Oxygen
2Z
Gas Clean Filter Moisture
Not available.
Section 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel**
- **Gas Clean Filter Oxygen**
  - 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 spill material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

- **Gas Clean Filter Moisture**
  - 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 spill material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders**
- **Gas Clean Filter Oxygen**
  - 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".

- **Gas Clean Filter Moisture**
  - 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".

**Environmental precautions**
- **Gas Clean Filter Oxygen**
  - 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.

- **Gas Clean Filter Moisture**
  - 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).

**Methods and material for containment and cleaning up**

**Methods for cleaning up**
- **Gas Clean Filter Oxygen**
  - Move containers from spill area. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor.

- **Gas Clean Filter Moisture**
  - Move containers from spill area. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

**Precautions for safe handling**
Section 7. Handling and storage

### Protective measures

**Gas Clean Filter Oxygen**

Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. 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. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Gas Clean Filter Moisture**

Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. 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, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

### Advice on general occupational hygiene

**Gas Clean Filter Oxygen**

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.

**Gas Clean Filter Moisture**

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

**Gas Clean Filter Oxygen**

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 locked up. 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.

**Gas Clean Filter Moisture**

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 locked up. 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.
Section 8. Exposure controls and personal protection

Since the hazardous ingredient in this article is encapsulated, the risk of exposure by inhalation, ingestion, skin contact and eyes contact is minimum.

Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Clean Filter Oxygen</td>
<td>Safe Work Australia (Australia, 12/2019).</td>
</tr>
<tr>
<td>aluminium oxide</td>
<td>TWA: 10 mg/m³ 8 hours.</td>
</tr>
<tr>
<td>Copper oxide, Activated</td>
<td>EH40/2005 WELs (United Kingdom (UK), 1/2020).</td>
</tr>
<tr>
<td></td>
<td>STEL: 2 mg/m³, (as Cu) 15 minutes. Form: Duts and Mists</td>
</tr>
<tr>
<td>Manganese dioxide</td>
<td>Safe Work Australia (Australia, 12/2019).</td>
</tr>
<tr>
<td></td>
<td>TWA: 1 mg/m³, (as Mn) 8 hours. Form: Dust</td>
</tr>
<tr>
<td>nickel monoxide</td>
<td>ACGIH TLV (United States, 1/2021).</td>
</tr>
<tr>
<td></td>
<td>TWA: 0.2 mg/m³, (as Ni) 8 hours. Form: Inhalable fraction</td>
</tr>
<tr>
<td>Gas Clean Filter Moisture</td>
<td>Safe Work Australia (Australia, 12/2019).</td>
</tr>
<tr>
<td>crystalline silica, respirable powder</td>
<td>TWA: 0.05 mg/m³ 8 hours. Form: Respirable dust</td>
</tr>
<tr>
<td>cristobalite</td>
<td>Safe Work Australia (Australia, 12/2019).</td>
</tr>
<tr>
<td></td>
<td>TWA: 0.05 mg/m³ 8 hours. Form: Respirable dust</td>
</tr>
</tbody>
</table>

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: safety glasses with side-shields.

Skin 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.
Section 8. Exposure controls and personal protection

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.

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:
- Gas Clean Filter Oxygen: Solid. [Granular solid.]
- Gas Clean Filter Moisture: Solid. [Granular solid.]

Colour:
- Gas Clean Filter Oxygen: Brown. [Dark]
- Gas Clean Filter Moisture: Tan.

Odour:
- Gas Clean Filter Oxygen: Not available.
- Gas Clean Filter Moisture: Not available.

Odour threshold:
- Gas Clean Filter Oxygen: Not available.
- Gas Clean Filter Moisture: Not available.

pH:
- Gas Clean Filter Oxygen: Not available.
- Gas Clean Filter Moisture: Not available.

Melting point/freezing point:
- Gas Clean Filter Oxygen: Not available.
- Gas Clean Filter Moisture: Not available.

Boiling point, initial boiling point, and boiling range:
- Gas Clean Filter Oxygen: Not available.
- Gas Clean Filter Moisture: Not available.

Flash point:
- Gas Clean Filter Oxygen: Not applicable.
- Gas Clean Filter Moisture: Closed cup: >535°C (>995°F)

Evaporation rate:
- Gas Clean Filter Oxygen: Not available.
- Gas Clean Filter Moisture: Not available.

Flammability:
- Gas Clean Filter Oxygen: Not available.
- Gas Clean Filter Moisture: Not available.

Lower and upper explosion limit/flammability limit:
- Gas Clean Filter Oxygen: Not applicable.
- Gas Clean Filter Moisture: Not applicable.

Vapour pressure:
- Gas Clean Filter Oxygen: Not available.
- Gas Clean Filter Moisture: Not available.

Relative vapour density:
- Gas Clean Filter Oxygen: Not applicable.
- Gas Clean Filter Moisture: Not applicable.

Relative density:
- Gas Clean Filter Oxygen: Not available.
- Gas Clean Filter Moisture: Not available.

Solubility:
- Gas Clean Filter Oxygen: Insoluble in the following materials: cold water and hot water.
- Gas Clean Filter Moisture: Insoluble in the following materials: cold water and hot water.

Partition coefficient: n-octanol/water:
- Gas Clean Filter Oxygen: Not applicable.
- Gas Clean Filter Moisture: Not applicable.

Auto-ignition temperature:
- Gas Clean Filter Oxygen: Not applicable.
- Gas Clean Filter Moisture: Not applicable.

Decomposition temperature:
- Gas Clean Filter Oxygen: Not available.
- Gas Clean Filter Moisture: Not available.

Viscosity:
- Gas Clean Filter Oxygen: Not applicable.
- Gas Clean Filter Moisture: Not applicable.
Section 9. Physical and chemical properties and safety characteristics

**Particle characteristics**

<table>
<thead>
<tr>
<th>Median particle size</th>
<th>Gas Clean Filter Oxygen</th>
<th>Not available.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gas Clean Filter Moisture</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

Section 10. Stability and reactivity

**Reactivity**

<table>
<thead>
<tr>
<th></th>
<th>Gas Clean Filter Oxygen</th>
<th>No specific test data related to reactivity available for this product or its ingredients.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gas Clean Filter Moisture</td>
<td>No specific test data related to reactivity available for this product or its ingredients.</td>
</tr>
</tbody>
</table>

**Chemical stability**

<table>
<thead>
<tr>
<th></th>
<th>Gas Clean Filter Oxygen</th>
<th>The product is stable.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gas Clean Filter Moisture</td>
<td>The product is stable.</td>
</tr>
</tbody>
</table>

**Possibility of hazardous reactions**

<table>
<thead>
<tr>
<th></th>
<th>Gas Clean Filter Oxygen</th>
<th>Under normal conditions of storage and use, hazardous reactions will not occur.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gas Clean Filter Moisture</td>
<td>Under normal conditions of storage and use, hazardous reactions will not occur.</td>
</tr>
</tbody>
</table>

**Conditions to avoid**

<table>
<thead>
<tr>
<th></th>
<th>Gas Clean Filter Oxygen</th>
<th>No specific data.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gas Clean Filter Moisture</td>
<td>No specific data.</td>
</tr>
</tbody>
</table>

**Incompatible materials**

<table>
<thead>
<tr>
<th></th>
<th>Gas Clean Filter Oxygen</th>
<th>May react or be incompatible with oxidising materials.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gas Clean Filter Moisture</td>
<td>May react or be incompatible with oxidising materials.</td>
</tr>
</tbody>
</table>

**Hazardous decomposition products**

<table>
<thead>
<tr>
<th></th>
<th>Gas Clean Filter Oxygen</th>
<th>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gas Clean Filter Moisture</td>
<td>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</td>
</tr>
</tbody>
</table>

Section 11. Toxicological information

**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>Gas Clean Filter Oxygen</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;10000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rat - Male, Female</td>
<td>&gt;2000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Copper oxide, Activated</td>
<td>LD50 Oral, Dermal</td>
<td>Rat - Male, Female</td>
<td>470 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Manganese dioxide</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>3478 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>nickel monoxide</td>
<td>LC50 Inhalation Dusts and mists</td>
<td>Rat - Male, Female</td>
<td>&gt;5.08 mg/l</td>
<td>4 hours</td>
</tr>
</tbody>
</table>

**Irritation/Corrosion**

Not available.

**Sensitisation**

Not available.

**Conclusion/Summary**

<table>
<thead>
<tr>
<th>Skin</th>
<th>Gas Clean Filter Oxygen: May cause sensitisation by skin contact.</th>
</tr>
</thead>
</table>

**Mutagenicity**

Not available.

**Conclusion/Summary**

<table>
<thead>
<tr>
<th>Carcinogenicity</th>
<th>Not available.</th>
</tr>
</thead>
</table>

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Section 11. Toxicological information

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)

<table>
<thead>
<tr>
<th>Name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Clean Filter Oxygen</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manganese dioxide</td>
<td>Category 1</td>
<td>oral, inhalation</td>
<td></td>
</tr>
<tr>
<td>nickel monoxide</td>
<td>Category 1</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Gas Clean Filter Moisture</td>
<td></td>
<td>inhalation</td>
<td>lungs</td>
</tr>
<tr>
<td>crystalline silica, respirable powder</td>
<td>Category 1</td>
<td>inhalation</td>
<td>lungs</td>
</tr>
<tr>
<td>cristobalite</td>
<td>Category 1</td>
<td>inhalation</td>
<td></td>
</tr>
</tbody>
</table>

Aspiration hazard

Not available.

Information on likely routes of exposure

Gas Clean Filter Oxygen: Routes of entry anticipated: Oral, Dermal, Inhalation.
Gas Clean Filter Moisture: Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact

Gas Clean Filter Oxygen: No known significant effects or critical hazards.
Gas Clean Filter Moisture: No known significant effects or critical hazards.

Inhalation

Gas Clean Filter Oxygen: Harmful if inhaled.
Gas Clean Filter Moisture: No known significant effects or critical hazards.

Skin contact

Gas Clean Filter Oxygen: No known significant effects or critical hazards.
Gas Clean Filter Moisture: No known significant effects or critical hazards.

Ingestion

Gas Clean Filter Oxygen: No known significant effects or critical hazards.
Gas Clean Filter Moisture: No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact

Gas Clean Filter Oxygen: No specific data.
Gas Clean Filter Moisture: No specific data.

Inhalation

Gas Clean Filter Oxygen: No specific data.
Gas Clean Filter Moisture: No specific data.

Skin contact

Gas Clean Filter Oxygen: No specific data.
Gas Clean Filter Moisture: No specific data.

Ingestion

Gas Clean Filter Oxygen: No specific data.
Gas Clean Filter Moisture: No specific data.

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

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Section 11. Toxicological information

General:
- Gas Clean Filter Oxygen: May cause damage to organs through prolonged or repeated exposure.
- Gas Clean Filter Moisture: May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity:
- Gas Clean Filter Oxygen: May cause cancer. Risk of cancer depends on duration and level of exposure.
- Gas Clean Filter Moisture: May cause cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity:
- Gas Clean Filter Oxygen: No known significant effects or critical hazards.
- Gas Clean Filter Moisture: No known significant effects or critical hazards.

Reproductive toxicity:
- Gas Clean Filter Oxygen: No known significant effects or critical hazards.
- Gas Clean Filter Moisture: No known significant effects or critical hazards.

Numerical measures of toxicity

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>Gas Clean Filter Oxygen</td>
<td>2735.1</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>1.6</td>
</tr>
<tr>
<td>Copper oxide, Activated</td>
<td>470</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Manganese dioxide</td>
<td>500</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Other information:
- Gas Clean Filter Oxygen: Adverse symptoms may include the following: May cause skin sensitisation.
- Gas Clean Filter Moisture: Not available.

Section 12. Ecological information

Toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Clean Filter Oxygen aluminium oxide</td>
<td>Acute EC50 114.357 mg/l Fresh water</td>
<td>Daphnia - Daphnia magna - Neonate</td>
<td>48 hours</td>
</tr>
<tr>
<td>Copper oxide, Activated</td>
<td>Acute LC50 2.6 mg/l Fresh water</td>
<td>Daphnia - Daphnia magna - Neonate</td>
<td>48 hours</td>
</tr>
<tr>
<td>Manganese dioxide</td>
<td>Acute LC50 &gt;56000 ppm Fresh water</td>
<td>Fish - Gambusia affinis - Adult Algae - Desmodesmus subspicatus</td>
<td>96 hours 72 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 &gt;100 mg/l Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 &gt;100 mg/l Fresh water</td>
<td>Fish - Oncorhynchus mykiss</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute NOEC &gt;100 mg/l Fresh water</td>
<td>Fish - Oncorhynchus mykiss</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 10 mg/l Fresh water</td>
<td>Daphnia - Ceriodaphnia dubia</td>
<td>8 days</td>
</tr>
</tbody>
</table>

Persistence and degradability

Not available.

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>Gas Clean Filter Oxygen nickel monoxide</td>
<td>-</td>
<td>5613</td>
<td>high</td>
</tr>
</tbody>
</table>

Mobility in soil

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Section 12. Ecological information

**Soil/water partition coefficient (K\text{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 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. 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

This Safety Data Sheet is written based on the encapsulated substance or mixture in this article. Since the hazardous ingredient is encapsulated, the risk of exposure by inhalation, ingestion, skin contact and eyes contact is minimum.

<table>
<thead>
<tr>
<th>UN number</th>
<th>ADG</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN3077</td>
<td>UN3077</td>
<td>UN3077</td>
<td>UN3077</td>
</tr>
<tr>
<td>UN proper shipping name</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper oxide, Activated)</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper oxide, Activated)</td>
<td>Environmentally hazardous substance, solid, n.o.s. (Copper oxide, Activated)</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>9</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Packing group</td>
<td>III</td>
<td>III</td>
<td>III</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>Yes.</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
</tbody>
</table>

**ADG** : The product is not regulated as a dangerous good when transported by road or rail in either an IBC, or in other container types if ≤500 kg. This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

**Hazchem code** 2Z

**Special provisions** 274, 331, 335, 375, AU01

**IMDG** : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

**Emergency schedules** F-A, S-F

**Special provisions** 274, 335, 966, 967, 969

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Section 14. Transport information

IATA : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8. 
Special provisions: A97, A158, A179, A197, A215

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

Standard for the Uniform Scheduling of Medicines and Poisons
Not regulated.

Model Work Health and Safety Regulations - Scheduled Substances

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Clean Filter Oxygen</td>
<td>Restricted hazardous chemical [For abrasive blasting at a concentration of greater than 0.1% as nickel]</td>
</tr>
<tr>
<td>Nickel oxide</td>
<td></td>
</tr>
<tr>
<td>Gas Clean Filter Moisture</td>
<td>Restricted hazardous chemical [For abrasive blasting at a concentration of greater than 1%]</td>
</tr>
<tr>
<td>Quartz (respirable fraction)</td>
<td>Restricted hazardous chemical [For abrasive blasting at a concentration of greater than 1%]</td>
</tr>
<tr>
<td>Cristobalite (respirable fraction)</td>
<td></td>
</tr>
</tbody>
</table>

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

Australia : All components are listed or exempted.
Canada : Not determined.
China : All components are listed or exempted.
Europe : All components are listed or exempted.
Japan : Japan inventory (CSCL): All components are listed or exempted. Japan inventory (ISHL): All components are listed or exempted.
New Zealand : All components are listed or exempted.

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Section 15. Regulatory information

<table>
<thead>
<tr>
<th>Country</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philippines</td>
<td>Not determined</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>Not determined</td>
</tr>
<tr>
<td>Taiwan</td>
<td>All components are listed or exempted.</td>
</tr>
<tr>
<td>Thailand</td>
<td>All components are listed or exempted.</td>
</tr>
<tr>
<td>Turkey</td>
<td>Not determined</td>
</tr>
<tr>
<td>United States</td>
<td>All components are active or exempted.</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

Section 16. Any other relevant information

History

<table>
<thead>
<tr>
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<th>09/11/2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of previous issue</td>
<td>No previous validation</td>
</tr>
<tr>
<td>Version</td>
<td>1</td>
</tr>
</tbody>
</table>

Key to abbreviations

- ADG = Australian Dangerous Goods
- ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- N/A = Not available
- SUSMP = Standard Uniform Schedule of Medicine and Poisons
- UN = United Nations

Procedure used to derive the classification

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Clean Filter Oxygen</td>
<td></td>
</tr>
<tr>
<td>ACUTE TOXICITY (inhalation) - Category 4</td>
<td>Calculation method</td>
</tr>
<tr>
<td>CARCINOGENICITY - Category 1</td>
<td>Calculation method</td>
</tr>
<tr>
<td>SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2</td>
<td>Calculation method</td>
</tr>
<tr>
<td>LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

| Gas Clean Filter Moisture                           |                        |
| CARCINOGENICITY - Category 1                        | Calculation method     |
| SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2 | Calculation method     |

References

- Not available.

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