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.

1.1 Product identifier

Product name : Gas Filter FID Kit 1/8 in, 5pk, Part Number CP736530-TR5
Part no. (chemical kit) : CP736530-TR5
Part no. : Gas Clean Filter Hydrocarbon CP17972
         Gas Clean Filter Oxygen CP17970
         Gas Clean Filter Moisture CP17971
Validation date : 9/11/2018

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

Material uses : Reagents and Standards for Analytical Chemistry Laboratory Use
Filter
         Gas Clean Filter Hydrocarbon 200 ml
         Gas Clean Filter Oxygen 200 ml
         Gas Clean Filter Moisture 200 ml

1.3 Details of the supplier of the safety data sheet

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

1.4 Emergency telephone number

In case of emergency : CHEMTREC®: 1-800-424-9300

Section 2. Hazards 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.

2.1 Classification of the substance or mixture

OSHA/HCS status : Gas Clean Filter Hydrocarbon
                  Gas Clean Filter Oxygen
                  Gas Clean Filter Moisture
This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture
Gas Clean Filter Hydrocarbon
Comb. Dusts COMBUSTIBLE DUSTS

Gas Clean Filter Oxygen
H332 ACUTE TOXICITY (inhalation) - Category 4
H317 SKIN SENSITIZATION - Category 1
H350 CARCINOGENICITY - Category 1A
H402 AQUATIC HAZARD (ACUTE) - Category 3
H412 AQUATIC HAZARD (LONG-TERM) - Category 3
Section 2. Hazards identification

Gas Clean Filter Moisture

H350  CARCINOGENICITY - Category 1A
H372  SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (lungs) - Category 1

Ingredients of unknown toxicity

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity</th>
<th>Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity</th>
<th>Percentage of the mixture consisting of ingredient(s) of unknown oral toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Clean Filter Oxygen</td>
<td>10 - 30%</td>
<td>&gt; 60%</td>
<td></td>
</tr>
<tr>
<td>Gas Clean Filter Moisture</td>
<td>&gt; 60%</td>
<td>&gt; 60%</td>
<td>&gt; 60%</td>
</tr>
</tbody>
</table>

2.2 GHS label elements

Hazard pictograms

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Hazard pictogram</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Clean Filter Oxygen</td>
<td>![Hazard pictogram]</td>
</tr>
<tr>
<td>Gas Clean Filter Moisture</td>
<td>![Hazard pictogram]</td>
</tr>
</tbody>
</table>

Signal word

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Signal word</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Clean Filter Hydrocarbon</td>
<td>Warning</td>
</tr>
<tr>
<td>Gas Clean Filter Oxygen</td>
<td>Danger</td>
</tr>
<tr>
<td>Gas Clean Filter Moisture</td>
<td>Danger</td>
</tr>
</tbody>
</table>

Hazard statements

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Hazard statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Clean Filter Hydrocarbon</td>
<td>No Code(s) - May form combustible dust concentrations in air.</td>
</tr>
<tr>
<td>Gas Clean Filter Oxygen</td>
<td>H332 - Harmful if inhaled.</td>
</tr>
<tr>
<td>Gas Clean Filter Moisture</td>
<td>H317 - May cause an allergic skin reaction.</td>
</tr>
<tr>
<td></td>
<td>H350 - May cause cancer.</td>
</tr>
<tr>
<td></td>
<td>H412 - Harmful to aquatic life with long lasting effects.</td>
</tr>
<tr>
<td>Gas Clean Filter Moisture</td>
<td>H350 - May cause cancer.</td>
</tr>
<tr>
<td></td>
<td>H372 - Causes damage to organs through prolonged or repeated exposure. (lungs)</td>
</tr>
</tbody>
</table>

Precautionary statements

Prevention

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Precautionary statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Clean Filter Hydrocarbon</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Gas Clean Filter Oxygen</td>
<td>P201 - Obtain special instructions before use.</td>
</tr>
<tr>
<td></td>
<td>P202 - Do not handle until all safety precautions have been read and understood.</td>
</tr>
<tr>
<td></td>
<td>P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.</td>
</tr>
<tr>
<td></td>
<td>P271 - Use only outdoors or in a well-ventilated area.</td>
</tr>
<tr>
<td></td>
<td>P273 - Avoid release to the environment.</td>
</tr>
<tr>
<td></td>
<td>P261 - Avoid breathing dust.</td>
</tr>
<tr>
<td></td>
<td>P272 (OSHA) - Contaminated work clothing must not be allowed out of the workplace.</td>
</tr>
<tr>
<td>Gas Clean Filter Moisture</td>
<td>P201 - Obtain special instructions before use.</td>
</tr>
</tbody>
</table>

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Section 2. Hazards identification

Gas Clean Filter Hydrocarbon
P202 - Do not handle until all safety precautions have been read and understood.
P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.
P260 - Do not breathe dust.
P270 - Do not eat, drink or smoke when using this product.
P264 - Wash hands thoroughly after handling.

Response:

Gas Clean Filter Oxygen
Not applicable.
P308 + P313 - IF exposed or concerned: Get medical attention.
P304 + P340 + P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.
P302 + P352 + P363 - IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse.
P333 + P313 - If skin irritation or rash occurs: Get medical attention.

Gas Clean Filter Moisture
P314 - Get medical attention if you feel unwell.
P308 + P313 - IF exposed or concerned: Get medical attention.

Storage:

Gas Clean Filter Hydrocarbon
Not applicable.
Gas Clean Filter Oxygen
P405 - Store locked up.
Gas Clean Filter Moisture
P405 - Store locked up.

Disposal:

Gas Clean Filter Hydrocarbon
Not applicable.
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:

Gas Clean Filter Hydrocarbon
Keep container tightly closed. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Prevent dust accumulation.
Gas Clean Filter Oxygen
None known.
Gas Clean Filter Moisture
None known.

2.3 Other hazards

Gas Clean Filter Hydrocarbon
None known.
Gas Clean Filter Oxygen
None known.
Gas Clean Filter Moisture
None known.

Section 3. Composition/information on ingredients

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 Hydrocarbon
Substance (encapsulated in article)
Gas Clean Filter Oxygen
Mixture (encapsulated in article)
Gas Clean Filter Moisture
Mixture (encapsulated in article)

Date of issue: 09/11/2018
Section 3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Clean Filter Hydrocarbon carbon</td>
<td>100</td>
<td>7440-44-0</td>
</tr>
<tr>
<td>Gas Clean Filter Oxygen Copper oxide, Activated</td>
<td>≤10</td>
<td>1317-38-0</td>
</tr>
<tr>
<td>Manganese dioxide</td>
<td>≤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>Gas Clean Filter Moisture crystalline silica, respirable powder</td>
<td>≤10</td>
<td>14808-60-7</td>
</tr>
<tr>
<td>cristobalite</td>
<td>≤10</td>
<td>14464-46-1</td>
</tr>
</tbody>
</table>

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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

4.1 Description of necessary first aid measures

**Eye contact**

- Gas Clean Filter Hydrocarbon
  - 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 if irritation occurs.

- Gas Clean Filter Oxygen
  - 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.

- Gas Clean Filter Moisture
  - 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**

- Gas Clean Filter Hydrocarbon
  - 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.

- Gas Clean Filter Oxygen
  - 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
Gas Clean Filter Hydrocarbon

Skin contact: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion: Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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.

Gas Clean Filter Oxygen

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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.

Gas Clean Filter Moisture

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 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

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Section 4. First aid measures

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. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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.

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact: Gas Clean Filter Hydrocarbon
Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.
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 Hydrocarbon
Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.
Gas Clean Filter Oxygen
Harmful if inhaled.
Gas Clean Filter Moisture
No known significant effects or critical hazards.

Skin contact: Gas Clean Filter Hydrocarbon
May cause an allergic skin reaction.
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 Hydrocarbon
No known significant effects or critical hazards.
Gas Clean Filter Oxygen
No known significant effects or critical hazards.
Gas Clean Filter Moisture
No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact: Gas Clean Filter Hydrocarbon
Adverse symptoms may include the following:
irritation
redness
Gas Clean Filter Oxygen
No specific data.
Gas Clean Filter Moisture
No specific data.

Inhalation: Gas Clean Filter Hydrocarbon
Adverse symptoms may include the following:
respiratory tract irritation
coughing
Gas Clean Filter Oxygen
No specific data.
Gas Clean Filter Moisture
No specific data.
Section 4. First aid measures

### Skin contact
- **Gas Clean Filter Hydrocarbon**: No specific data.
- **Gas Clean Filter Oxygen**: Adverse symptoms may include the following: irritation, redness.
- **Gas Clean Filter Moisture**: No specific data.

### Ingestion
- **Gas Clean Filter Hydrocarbon**: No specific data.
- **Gas Clean Filter Oxygen**: No specific data.
- **Gas Clean Filter Moisture**: No specific data.

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

#### Notes to physician
- **Gas Clean Filter Hydrocarbon**: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- **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 Hydrocarbon**: No specific treatment.
- **Gas Clean Filter Oxygen**: No specific treatment.
- **Gas Clean Filter Moisture**: No specific treatment.

#### Protection of first-aiders
- **Gas Clean Filter Hydrocarbon**: 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. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
- **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. Fire-fighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media
- **Gas Clean Filter Hydrocarbon**: Use dry chemical powder.
- **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 Hydrocarbon**: Avoid high pressure media which could cause the formation of a potentially explosible dust-air mixture.
- **Gas Clean Filter Oxygen**: None known.
- **Gas Clean Filter Moisture**: None known.

Date of issue: 09/11/2018
Section 5. Fire-fighting measures

5.2 Special hazards arising from the substance or mixture

<table>
<thead>
<tr>
<th>Specific hazards arising from the chemical</th>
<th>Gas Clean Filter Hydrocarbon</th>
<th>Gas Clean Filter Oxygen</th>
<th>Gas Clean Filter Moisture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazardous thermal decomposition products</td>
<td>Decomposition products may include the following materials:</td>
<td>carbon dioxide</td>
<td>metal oxide/oxides</td>
</tr>
<tr>
<td></td>
<td>carbon monoxide</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5.3 Advice for firefighters

<table>
<thead>
<tr>
<th>Special protective actions for fire-fighters</th>
<th>Gas Clean Filter Hydrocarbon</th>
<th>Gas Clean Filter Oxygen</th>
<th>Gas Clean Filter Moisture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special protective equipment for fire-fighters</td>
<td>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.</td>
<td>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.</td>
<td>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.</td>
</tr>
</tbody>
</table>

Section 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
### Section 6. Accidental release measures

**For non-emergency personnel**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Prevention Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Clean Filter Hydrocarbon</td>
<td>No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing dust. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.</td>
</tr>
<tr>
<td>Gas Clean Filter Oxygen</td>
<td>No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.</td>
</tr>
<tr>
<td>Gas Clean Filter Moisture</td>
<td>No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.</td>
</tr>
</tbody>
</table>

**For emergency responders**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Prevention Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Clean Filter Hydrocarbon</td>
<td>If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in &quot;For non-emergency personnel&quot;.</td>
</tr>
<tr>
<td>Gas Clean Filter Oxygen</td>
<td>If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in &quot;For non-emergency personnel&quot;.</td>
</tr>
<tr>
<td>Gas Clean Filter Moisture</td>
<td>If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in &quot;For non-emergency personnel&quot;.</td>
</tr>
</tbody>
</table>

**6.2 Environmental precautions**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Prevention Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Clean Filter Hydrocarbon</td>
<td>Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).</td>
</tr>
<tr>
<td>Gas Clean Filter Oxygen</td>
<td>Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.</td>
</tr>
<tr>
<td>Gas Clean Filter Moisture</td>
<td>Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).</td>
</tr>
</tbody>
</table>
Section 6. Accidental release measures

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up : Gas Clean Filter Hydrocarbon
Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

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. Place spilled material in a designated, 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

7.1 Precautions for safe handling

Protective measures : Gas Clean Filter Hydrocarbon
Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing dust. Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Prevent dust accumulation. 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. Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

Gas Clean Filter Oxygen
Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. 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...
## Section 7. Handling and storage

### Advice on general occupational hygiene

**Gas Clean Filter Hydrocarbon**

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 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.

### 7.2 Conditions for safe storage, including any incompatibilities

**Gas Clean Filter Hydrocarbon**

Store in accordance with local regulations. Store in a segregated and approved area. 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. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

**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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
Section 7. Handling and storage

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

7.3 Specific end use(s)

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Industrial sector specific solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Clean Filter Hydrocarbon</td>
<td>Industrial applications, Professional applications.</td>
</tr>
<tr>
<td>Gas Clean Filter Oxygen</td>
<td>Industrial applications, Professional applications.</td>
</tr>
<tr>
<td>Gas Clean Filter Moisture</td>
<td>Industrial applications, Professional applications.</td>
</tr>
<tr>
<td>Not applicable.</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Not applicable.</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

Section 8. Exposure controls/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.

8.1 Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
</table>
| **Gas Clean Filter Hydrocarbon**
  carbon | None. |
| **Gas Clean Filter Oxygen**
  Copper oxide, Activated | NIOSH REL (United States, 10/2016).
  - TWA: 0.1 mg/m³, (as Cu) 10 hours. Form: Fume
  - CEIL: 5 mg/m³, (as Mn)
  NIOSH REL (United States, 10/2016).
  - TWA: 1 mg/m³, (as Mn) 10 hours. Form: Fume
  - STEL: 3 mg/m³, (as Mn) 15 minutes. Form: Fume
  OSHA PEL (United States, 6/2016).
  - CEIL: 5 mg/m³, (as Mn)
  ACGIH TLV (United States, 3/2017).
  - TWA: 0.1 mg/m³, (as Mn) 8 hours. Form: Inhalable fraction
  - TWA: 0.02 mg/m³, (as Mn) 8 hours. Form: Respirable fraction
  - TWA: 1 mg/m³, (as Mn) 8 hours.
  NIOSH REL (United States, 10/2016).
  - TWA: 0.015 mg/m³, (as Ni) 10 hours.
  ACGIH TLV (United States, 3/2017).
  - TWA: 0.2 mg/m³, (as Ni) 8 hours. Form: |
| **nickel monoxide** | |

Date of issue: 09/11/2018
### Section 8. Exposure controls/personal protection

<table>
<thead>
<tr>
<th>Gas Clean Filter Moisture</th>
<th>Inhalable fraction</th>
</tr>
</thead>
</table>
| Crystalline silica, respirable powder | OSHA PEL (United States, 6/2016).  
TWA: 1 mg/m³ (as Ni) 8 hours. |

| cristobalite | OSHA PEL Z3 (United States, 6/2016).  
TWA: 250 mppcf / (%SiO₂+5) 8 hours. Form: Respirable  
TWA: 250 mppcf / 2 x (%SiO₂+5) 8 hours. Form: Respirable  
TWA: 30 mg/m³ / 2 x (%SiO₂+2) 8 hours. Form: Total dust |
|--------------|--------------------------------------------------|
TWA: 0.1 mg/m³ (as quartz) 8 hours. Form: Respirable dust |

| OSHA PEL (United States, 6/2016).  
TWA: 50 µg/m³ 8 hours. Form: Respirable dust |
|--------------------------|
| ACGIH TLV (United States, 3/2017).  
TWA: 0.025 mg/m³ 8 hours. Form: Respirable fraction |

| NIOSH REL (United States, 10/2016).  
TWA: 0.05 mg/m³ 10 hours. Form: respirable dust |
|--------------------------|
| OSHA PEL Z3 (United States, 6/2016).  
TWA: 250 mppcf / 2 x (%SiO₂+5) 8 hours. Form: Respirable  
TWA: 250 mppcf / (%SiO₂+5) 8 hours. Form: Respirable  
TWA: 30 mg/m³ / 2 x (%SiO₂+2) 8 hours. Form: Total dust |

TWA: 0.05 mg/m³ (as quartz) 8 hours. Form: Respirable dust |
|--------------------------|
| OSHA PEL (United States, 6/2016).  
TWA: 50 µg/m³ 8 hours. Form: Respirable dust |

| ACGIH TLV (United States, 3/2017).  
TWA: 0.025 mg/m³ 8 hours. Form: Respirable fraction |

| NIOSH REL (United States, 10/2016).  
TWA: 0.05 mg/m³ 10 hours. Form: respirable dust |

### 8.2 Exposure controls

**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

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Section 8. Exposure controls/personal protection

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. Contaminated work clothing should not be allowed out of the workplace. 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

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.

Section 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance


Odor: Gas Clean Filter Hydrocarbon None Gas Clean Filter Oxygen Not available. Gas Clean Filter Moisture Not available.


Melting point: Gas Clean Filter Hydrocarbon 3652°C (6605.6°F) Gas Clean Filter Oxygen Not available. Gas Clean Filter Moisture Not available.


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Section 9. Physical and chemical properties

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

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

Flammability (solid, gas)
- Gas Clean Filter Hydrocarbon: Not available.
- Gas Clean Filter Oxygen: Not available.
- Gas Clean Filter Moisture: Not available.

Lower and upper explosive (flammable) limits
- Gas Clean Filter Hydrocarbon: Not available.
- Gas Clean Filter Oxygen: Not available.
- Gas Clean Filter Moisture: Not available.

Vapor pressure
- Gas Clean Filter Hydrocarbon: Not available.
- Gas Clean Filter Oxygen: Not available.
- Gas Clean Filter Moisture: Not available.

Vapor density
- Gas Clean Filter Hydrocarbon: Not available.
- Gas Clean Filter Oxygen: Not available.
- Gas Clean Filter Moisture: Not available.

Relative density
- Gas Clean Filter Hydrocarbon: 1.9 to 2.2 [Water = 1]
- Gas Clean Filter Oxygen: Not available.
- Gas Clean Filter Moisture: Not available.

Solubility
- Gas Clean Filter Hydrocarbon: Insoluble in the following materials: cold water and hot water.
- 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 Hydrocarbon: Not available.
- Gas Clean Filter Oxygen: Not available.
- Gas Clean Filter Moisture: Not available.

Auto-ignition temperature
- Gas Clean Filter Hydrocarbon: 452°C (845.6°F)
- Gas Clean Filter Oxygen: Not available.
- Gas Clean Filter Moisture: Not available.

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

Viscosity
- Gas Clean Filter Hydrocarbon: Not available.
- Gas Clean Filter Oxygen: Not available.
- Gas Clean Filter Moisture: Not available.

Section 10. Stability and reactivity

10.1 Reactivity
- Gas Clean Filter Hydrocarbon: No specific test data related to reactivity available for this product or its ingredients.
- Gas Clean Filter Oxygen: No specific test data related to reactivity available for this product or its ingredients.
- Gas Clean Filter Moisture: No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability
- Gas Clean Filter Hydrocarbon: The product is stable.
- Gas Clean Filter Oxygen: The product is stable.
- Gas Clean Filter Moisture: The product is stable.
Section 10. Stability and reactivity

10.3 Possibility of hazardous reactions
- Gas Clean Filter Hydrocarbon: Under normal conditions of storage and use, hazardous reactions will not occur.
- Gas Clean Filter Oxygen: Under normal conditions of storage and use, hazardous reactions will not occur.
- Gas Clean Filter Moisture: Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid
- Gas Clean Filter Hydrocarbon: Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Prevent dust accumulation.
- Gas Clean Filter Oxygen: No specific data.
- Gas Clean Filter Moisture: No specific data.

10.5 Incompatible materials
- Gas Clean Filter Hydrocarbon: Reactive or incompatible with the following materials:
  - oxidizing materials
- Gas Clean Filter Oxygen: May react or be incompatible with oxidizing materials.
- Gas Clean Filter Moisture: May react or be incompatible with oxidizing materials.

10.6 Hazardous decomposition products
- Gas Clean Filter Hydrocarbon: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Gas Clean Filter Oxygen: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Gas Clean Filter Moisture: 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>Gas Clean Filter Oxygen</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>470 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Copper oxide, Activated</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>3478 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Manganese dioxide</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;5.08 mg/l</td>
<td>4 hours</td>
</tr>
<tr>
<td>nickel monoxide</td>
<td>LC50 Inhalation Dusts and mists</td>
<td>Rat - Male, Female</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat - Female</td>
<td>9990 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

Irritation/Corrosion
- Not available.

Sensitization
- Not available.

Conclusion/Summary
- Skin: May cause sensitization by skin contact.

Mutagenicity

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Section 11. Toxicological information

Carcinogenicity

Conclusion/Summary : Not available.

Classification

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>OSHA</th>
<th>IARC</th>
<th>NTP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Clean Filter Oxygen nickel monoxide</td>
<td>-</td>
<td>1</td>
<td>Known to be a human carcinogen.</td>
</tr>
<tr>
<td>Gas Clean Filter Moisture crystalline silica, respirable powder cristobalite</td>
<td>-</td>
<td>1</td>
<td>Known to be a human carcinogen.</td>
</tr>
</tbody>
</table>

Teratogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

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 nickel monoxide</td>
<td>Category 1</td>
<td>Not determined</td>
<td>Lungs</td>
</tr>
<tr>
<td>Gas Clean Filter Moisture crystalline silica, respirable powder cristobalite</td>
<td>Category 1</td>
<td>Inhalation</td>
<td>Lungs</td>
</tr>
</tbody>
</table>

Aspiration hazard

Not available.

Information on the likely routes of exposure

<table>
<thead>
<tr>
<th>Name</th>
<th>Not available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Clean Filter Hydrocarbon</td>
<td>Routes of entry anticipated: Oral, Dermal, Inhalation.</td>
</tr>
<tr>
<td>Gas Clean Filter Oxygen</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Gas Clean Filter Moisture</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

Potential acute health effects

Eye contact

<table>
<thead>
<tr>
<th>Name</th>
<th>Not available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Clean Filter Hydrocarbon</td>
<td>Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.</td>
</tr>
<tr>
<td>Gas Clean Filter Oxygen</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Gas Clean Filter Moisture</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

Inhalation

<table>
<thead>
<tr>
<th>Name</th>
<th>Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Clean Filter Hydrocarbon</td>
<td>Harmful if inhaled.</td>
</tr>
<tr>
<td>Gas Clean Filter Oxygen</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Gas Clean Filter Moisture</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

Skin contact

<table>
<thead>
<tr>
<th>Name</th>
<th>No known significant effects or critical hazards.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Clean Filter Hydrocarbon</td>
<td>May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>Gas Clean Filter Oxygen</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Gas Clean Filter Moisture</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>
Section 11. Toxicological information

Ingestion:
- Gas Clean Filter Hydrocarbon: No known significant effects or critical hazards.
- 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 Hydrocarbon: Adverse symptoms may include the following:
  - irritation
  - redness
- Gas Clean Filter Oxygen: No specific data.
- Gas Clean Filter Moisture: No specific data.

Inhalation:
- Gas Clean Filter Hydrocarbon: Adverse symptoms may include the following:
  - respiratory tract irritation
  - coughing
- Gas Clean Filter Oxygen: No specific data.
- Gas Clean Filter Moisture: No specific data.

Skin contact:
- Gas Clean Filter Hydrocarbon: No specific data.
- Gas Clean Filter Oxygen: Adverse symptoms may include the following:
  - irritation
  - redness
- Gas Clean Filter Moisture: No specific data.

Ingestion:
- Gas Clean Filter Hydrocarbon: No specific data.
- Gas Clean Filter Oxygen: No specific data.
- Gas Clean Filter Moisture: No specific data.

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

Short term exposure
- Potential immediate effects: Not available.
- Potential delayed effects: Not available.

Long term exposure
- Potential immediate effects: Not available.
- Potential delayed effects: Not available.

Potential chronic health effects

General:
- Gas Clean Filter Hydrocarbon: Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.
- Gas Clean Filter Oxygen: Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- Gas Clean Filter Moisture: Causes damage to organs through prolonged or repeated exposure.

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

Teratogenicity:
- Gas Clean Filter Hydrocarbon: No known significant effects or critical hazards.
- Gas Clean Filter Oxygen: No known significant effects or critical hazards.
- Gas Clean Filter Moisture: No known significant effects or critical hazards.
Section 11. Toxicological information

### Developmental effects
- **Gas Clean Filter Hydrocarbon**
  - No known significant effects or critical hazards.
- **Gas Clean Filter Oxygen**
  - No known significant effects or critical hazards.
- **Gas Clean Filter Moisture**
  - No known significant effects or critical hazards.

### Fertility effects
- **Gas Clean Filter Hydrocarbon**
  - No known significant effects or critical hazards.
- **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>Route</th>
<th>ATE value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Clean Filter Oxygen</td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>2735.1 mg/kg</td>
</tr>
<tr>
<td>Inhalation (dusts and mists)</td>
<td>1.578 mg/l</td>
</tr>
</tbody>
</table>

#### Other information
- **Gas Clean Filter Hydrocarbon**
  - Not available.
- **Gas Clean Filter Oxygen**
  - Not available.
- **Gas Clean Filter Moisture**
  - Not available.

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>Gas Clean Filter Hydrocarbon carbon</td>
<td>Acute LC50 1000 mg/l Fresh water</td>
<td>Fish - Danio rerio</td>
<td>96 hours</td>
</tr>
<tr>
<td>Gas Clean Filter Oxygen 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</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>EC50 &gt;100 mg/l Fresh water</td>
<td>Algae - Desmodesmus subspicatus</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>LC50 &gt;100 mg/l</td>
<td>Fish - Oncorhynchus mykiss</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>NOEC &gt;100 mg/l</td>
<td>Fish - Oncorhynchus mykiss</td>
<td>96 hours</td>
</tr>
</tbody>
</table>

12.2 Persistence and degradability
Not available.

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

12.4 Mobility in soil

| Soil/water partition coefficient (K<sub>oc</sub>) | Not available. |

12.5 Other adverse effects
- No known significant effects or critical hazards.
## Section 13. Disposal considerations

### 13.1 Waste treatment methods

**Disposal methods**

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

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

## 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.

**DOT / TDG / Mexico / IMDG / IATA**

- Not regulated.

**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 Annex II of MARPOL and the IBC Code**: Not available.

## Section 15. Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

**U.S. Federal regulations**

- **TSCA 8(a) CDR Exempt/Partial exemption**: Not determined
  - **Clean Water Act (CWA) 307**: Copper oxide, Activated; nickel monoxide
  - **Clean Water Act (CWA) 311**: Sulphuric acid

- **Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)**: Listed

- **Clean Air Act Section 602 Class I Substances**: Not listed

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## Section 15. Regulatory information

### Clean Air Act Section 602
Class II Substances: Not listed

### DEA List I Chemicals (Precursor Chemicals)
Not listed

### DEA List II Chemicals (Essential Chemicals)
Not listed

### SARA 302/304

#### Composition/information on ingredients

<table>
<thead>
<tr>
<th>Name</th>
<th>%</th>
<th>EHS</th>
<th>SARA 302 TPQ (lbs)</th>
<th>SARA 304 RQ (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gas Clean Filter Oxygen</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sulphuric acid</td>
<td>&lt;0.1</td>
<td>Yes.</td>
<td>1000</td>
<td>1000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>66.3</td>
<td>66.3</td>
</tr>
</tbody>
</table>

SARA 304 RQ: 6000000 lbs / 2724000 kg

### SARA 311/312
Classification:
- **Gas Clean Filter Hydrocarbon**
  - COMBUSTIBLE DUSTS
  - ACUTE TOXICITY (oral) - Category 4
  - ACUTE TOXICITY (inhalation) - Category 4
  - SKIN SENSITIZATION - Category 1
  - CARCINOGENICITY - Category 1A

- **Gas Clean Filter Oxygen**
  - ACUTE TOXICITY (oral) - Category 4
  - ACUTE TOXICITY (inhalation) - Category 4
  - SKIN SENSITIZATION - Category 1

- **Gas Clean Filter Moisture**
  - ACUTE TOXICITY (oral) - Category 4
  - ACUTE TOXICITY (inhalation) - Category 4
  - SKIN SENSITIZATION - Category 1

### Composition/information on ingredients

<table>
<thead>
<tr>
<th>Name</th>
<th>%</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gas Clean Filter Hydrocarbon</strong></td>
<td>100</td>
<td>COMBUSTIBLE DUSTS</td>
</tr>
<tr>
<td>carbon</td>
<td></td>
<td>ACUTE TOXICITY (oral) - Category 4</td>
</tr>
<tr>
<td>Copper oxide, Activated</td>
<td>≤10</td>
<td>OXIDIZING SOLIDS - Category 3</td>
</tr>
<tr>
<td>Manganese dioxide</td>
<td>≤10</td>
<td>ACUTE TOXICITY (oral) - Category 4</td>
</tr>
<tr>
<td>nickel monoxide</td>
<td>&lt;1</td>
<td>ACUTE TOXICITY (inhalation) - Category 4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SKIN SENSITIZATION - Category 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CARCINOGENICITY (inhalation) - Category 1A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (lungs) - Category 1</td>
</tr>
<tr>
<td><strong>Gas Clean Filter Oxygen</strong></td>
<td></td>
<td>SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (lungs) - Category 1</td>
</tr>
<tr>
<td>crystalline silica, respirable powder</td>
<td>≤10</td>
<td>SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (inhalation) - Category 1</td>
</tr>
<tr>
<td>cristobalite</td>
<td>≤10</td>
<td>SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (lungs) (inhalation) - Category 1</td>
</tr>
</tbody>
</table>

### SARA 313

<table>
<thead>
<tr>
<th>Product name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gas Clean Filter Oxygen</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Copper oxide, Activated</td>
<td>1317-38-0</td>
<td>≤10</td>
</tr>
<tr>
<td>Manganese dioxide</td>
<td>1313-13-9</td>
<td>≤10</td>
</tr>
<tr>
<td>nickel monoxide</td>
<td>1313-99-1</td>
<td>&lt;1</td>
</tr>
</tbody>
</table>

Date of issue: 09/11/2018
Section 15. Regulatory information

<table>
<thead>
<tr>
<th>Supplier notification</th>
<th>Gas Clean Filter Oxygen</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Copper oxide, Activated</td>
</tr>
<tr>
<td></td>
<td>Manganese dioxide</td>
</tr>
<tr>
<td></td>
<td>Nickel monoxide</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts: The following components are listed: ALUMINUM OXIDE; CRISTOBALITE DUST; SILICA, CRYSTALLINE, QUARTZ

New York: None of the components are listed.

New Jersey: The following components are listed: ALUMINUM OXIDE; alpha-ALUMINA; COPPER compounds; NICKEL OXIDE; NICKEL MONOXIDE; SILICA, CRISTOBALITE; CRISTOBALITE (SiO2); SILICA, QUARTZ; QUARTZ (SiO2)

Pennsylvania: The following components are listed: ALUMINUM OXIDE; COPPER COMPOUNDS; MANGANESE COMPOUNDS; NICKEL OXIDE; CRISTOBALITE DUST; CRISTOBALITE; QUARTZ DUST; QUARTZ

California Prop. 65

⚠️ WARNING: This product can expose you to chemicals including Nickel oxide, Strong inorganic acid mists containing sulfuric acid, Silica, crystalline, Silica, crystalline, which are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>No significant risk level</th>
<th>Maximum acceptable dosage level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gas Clean Filter Oxygen</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nickel oxide</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Strong inorganic acid mists</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>containing sulfuric acid</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Gas Clean Filter Moisture</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silica, crystalline</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Silica, crystalline</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

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.

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Section 15. Regulatory information

Japan : Japan inventory (ENCS): All components are listed or exempted.
      Japan inventory (ISHL): All components are listed or exempted.

Malaysia : All components are listed or exempted.

New Zealand : All components are listed or exempted.

Philippines : Not determined.

Republic of Korea : Not determined.

Taiwan : All components are listed or exempted.

Thailand : Not determined.

Turkey : Not determined.

United States : All components are listed or exempted.

Viet Nam : Not determined.

Section 16. Other information

History
Date of issue : 09/11/2018
Date of previous issue : 10/27/2016
Version : 2

Procedure used to derive the classification

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
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</thead>
<tbody>
<tr>
<td>Gas Clean Filter Hydrocarbon</td>
<td></td>
</tr>
<tr>
<td>COMBUSTIBLE DUSTS</td>
<td>On basis of test data</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<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>SKIN SENSITIZATION - Category 1</td>
<td>Calculation method</td>
</tr>
<tr>
<td>CARCINOGENICITY - Category 1A</td>
<td>Calculation method</td>
</tr>
<tr>
<td>AQUATIC HAZARD (ACUTE) - Category 3</td>
<td>Calculation method</td>
</tr>
<tr>
<td>AQUATIC HAZARD (LONG-TERM) - Category 3</td>
<td>Calculation method</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Gas Clean Filter Moisture</td>
<td></td>
</tr>
<tr>
<td>CARCINOGENICITY - Category 1A</td>
<td>Calculation method</td>
</tr>
<tr>
<td>SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (lungs) - Category 1</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

Indicates information that has changed from previously issued version.

Notice to reader

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