SAFETY DATA SHEET

Agilent Technologies

Gas Clean Filter Kit for TCD, Part Number CP738408

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

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 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

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

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

Uses advised against : None known.

1.3 Details of the supplier of the safety data sheet

Agilent Technologies Deutschland GmbH
Hewlett-Packard-Str. 8
76337 Waldbronn
Germany
0800 603 1000

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

1.4 Emergency telephone number

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

SECTION 2: Hazards identification

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

Product definition : Gas Clean Filter Oxygen Mixture (encapsulated in article)
Gas Clean Filter Moisture Mixture (encapsulated in article)

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

Gas Clean Filter Oxygen

H332	ACUTE TOXICITY (inhalation)	Category 4
H350	CARCINOGENICITY	Category 1A
H400	SHORT-TERM (ACUTE) AQUATIC HAZARD	Category 1
H410	LONG-TERM (CHRONIC) AQUATIC HAZARD	Category 1

Gas Clean Filter Moisture

H373	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE	Category 2

SECTION 2: Hazards identification

Gas Clean Filter Oxygen — The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

Gas Clean Filter Moisture — The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

Ingredients of unknown toxicity :
- Gas Clean Filter Oxygen: Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: > 60%
- Gas Clean Filter Moisture: Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: > 60%
  Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: > 60%
  Percentage of the mixture consisting of ingredient(s) of unknown acute oral toxicity: > 60%

Ingredients of unknown ecotoxicity : Gas Clean Filter Moisture: Contains 100% of components with unknown hazards to the aquatic environment

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

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

2.2 Label elements

Hazard pictograms :

Gas Clean Filter Oxygen

Gas Clean Filter Moisture

Signal word :
- Gas Clean Filter Oxygen: Danger
- Gas Clean Filter Moisture: Warning

Hazard statements :
- Gas Clean Filter Oxygen: H332 - Harmful if inhaled.
  H350 - May cause cancer.
  H410 - Very toxic to aquatic life with long lasting effects.
- Gas Clean Filter Moisture: H373 - May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

Prevention :
- Gas Clean Filter Oxygen: P201 - Obtain special instructions before use.
  P280 - Wear protective gloves, protective clothing and eye or face protection.
  P273 - Avoid release to the environment.
- Gas Clean Filter Moisture: P260 - Do not breathe dust.

Response :
- Gas Clean Filter Oxygen: P391 - Collect spillage.
  P308 + P313 - IF exposed or concerned: Get medical advice or attention.
- Gas Clean Filter Moisture: P314 - Get medical advice/attention if you feel unwell.

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.

Hazardous ingredients :
- Gas Clean Filter Oxygen: manganese dioxide and nickel monoxide
- Gas Clean Filter Moisture: Quartz (SiO2) and cristobalite

Supplemental label elements :
- Gas Clean Filter Oxygen: Contains nickel monoxide. May produce an allergic reaction.
- Gas Clean Filter Moisture: Not applicable.

SECTION 2: Hazards identification

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Gas Clean Filter Oxygen: Restricted to professional users.
Gas Clean Filter Moisture: Not applicable.

Special packaging requirements

Tactile warning of danger : Gas Clean Filter Oxygen: Not applicable.
Gas Clean Filter Moisture: Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : Gas Clean Filter Oxygen: This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
Gas Clean Filter Moisture: This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification : 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.

3.1 Substances

: Gas Clean Filter Oxygen: Mixture (encapsulated in article)
Gas Clean Filter Moisture: Mixture (encapsulated in article)

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
Gas Clean Filter Oxygen					
aluminium oxide	EC: 215-691-6 CAS: 1344-28-1	≥75 - ≤90	Not classified.	-	[2]
copper(II) oxide	EC: 215-269-1 CAS: 1317-38-0 Index: 029-016-00-6	≤10	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M [Acute] = 100 M [Chronic] = 10	[1]
manganese dioxide	EC: 215-202-6 CAS: 1313-13-9 Index: 025-001-00-3	≤10	Acute Tox. 4, H302 Acute Tox. 4, H332	ATE [Oral] = 500 mg/kg ATE [Inhalation (dusts and mists)] = 1.5 mg/l	[1] [2]
nickel monoxide	EC: 215-215-7 CAS: 1313-99-1 Index: 028-003-00-2	<1	Skin Sens. 1, H317 Carc. 1A, H350i STOT RE 1, H372 Aquatic Chronic 4, H413	-	[1] [2]
Gas Clean Filter Moisture					
Quartz (SiO2)	EC: 238-878-4 CAS: 14808-60-7	<10	STOT RE 1, H372 (lungs) (inhalation)	-	[1] [2]
cristobalite	EC: 238-455-4 CAS: 14464-46-1	<10	STOT RE 1, H372 (lungs) (inhalation)	-	[1] [2]

SECTION 3: Composition/information on ingredients

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

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

Type

Gas Clean Filter Oxygen	[1] Substance classified with a health or environmental hazard [2] Substance with a workplace exposure limit
Gas Clean Filter Moisture	[1] Substance classified with a health or environmental hazard [2] Substance with a workplace exposure limit

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

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact :

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 following exposure or if feeling unwell.

Inhalation :

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 person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. 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 following exposure or if feeling unwell. 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.

Skin contact :

Gas Clean Filter Oxygen	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.
Gas Clean Filter Moisture	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell. Wash clothing before reuse. Clean shoes thoroughly before reuse.

SECTION 4: First aid measures

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 following exposure or if feeling unwell. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Protection of first-aiders : 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. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed

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.

Over-exposure signs/symptoms

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.

4.3 Indication of any immediate medical attention and special treatment needed

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.

SECTION 4: First aid measures

Specific treatments : Gas Clean Filter Oxygen — No specific treatment.
Gas Clean Filter Moisture — No specific treatment.

SECTION 5: Firefighting measures

5.1 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.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : Gas Clean Filter Oxygen — This material is very 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 combustion 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

5.3 Advice for firefighters

Special precautions 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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 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 spilt 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 spilt material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal

SECTION 6: Accidental release measures

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".

6.2 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).

6.3 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. 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.

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures : 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). Do not ingest. Avoid contact with eyes, skin and clothing. 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.

SECTION 7: Handling and storage

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.

7.2 Conditions for safe storage, including any incompatibilities

Storage :

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. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Seveso Directive - Reporting thresholds

Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
Gas Clean Filter Oxygen E1	100 tonne	200 tonne

7.3 Specific end use(s)

Recommendations :

Gas Clean Filter Oxygen: Industrial applications, Professional applications.

Gas Clean Filter Moisture: Industrial applications, Professional applications.

Industrial sector specific solutions :

Gas Clean Filter Oxygen: Not available.

Gas Clean Filter Moisture: Not available.

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

SECTION 8: Exposure controls/personal protection

Product/ingredient name	Exposure limit values
Gas Clean Filter Oxygen	
aluminium oxide	**NAOSH (Ireland, 5/2021). Notes: Advisory Occupational Exposure Limit Values (OELVs)** OELV: 4 mg/m³ 8 hours. Form: respirable dust OELV: 10 mg/m³ 8 hours. Form: inhalable dust
manganese dioxide	**NAOSH (Ireland, 5/2021). [manganese and inorganic manganese compounds] Notes: EU derived Occupational Exposure Limit Values** OELV: 0.2 mg/m³, (as Mn) 8 hours. Form: Inhalable fraction OELV: 0.05 mg/m³, (as Mn) 8 hours. Form: respirable fraction
nickel monoxide	**NAOSH (Ireland, 5/2021). [nickel inorganic compounds, insoluble] Notes: Advisory Occupational Exposure Limit Values (OELVs)** OELV: 0.5 mg/m³, (as Ni) 8 hours.
Gas Clean Filter Moisture	
Quartz (SiO2)	**NAOSH (Ireland, 5/2021). [silica, crystalline] Notes: EU derived Occupational Exposure Limit Values; List of Carcinogenic Substances, Mixtures and Processes** OELV: 0.1 mg/m³ 8 hours. Form: respirable dust
cristobalite	**NAOSH (Ireland, 5/2021). [silica, crystalline] Notes: EU derived Occupational Exposure Limit Values; List of Carcinogenic Substances, Mixtures and Processes** OELV: 0.1 mg/m³ 8 hours. Form: respirable dust

Biological exposure indices

No exposure indices known.

Recommended monitoring procedures : Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
Gas Clean Filter Oxygen					
copper(II) oxide	DNEL	Long term Inhalation	1 mg/m³	Workers	Local
	DNEL	Long term Inhalation	1 mg/m³	Workers	Systemic
	DNEL	Long term Dermal	137 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Oral	0.041 mg/kg bw/day	General population	Systemic
	DNEL	Short term Oral	0.082 mg/kg bw/day	General population	Systemic
manganese dioxide	DNEL	Long term Dermal	0.0021 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.00414 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	0.043 mg/m³	General population	Systemic
	DNEL	Long term Inhalation	0.2 mg/m³	Workers	Systemic
nickel monoxide	DNEL	Long term	60 ng/m³	General	Local

SECTION 8: Exposure controls/personal protection

		Inhalation		population	
	DNEL	Long term Inhalation	60 ng/m³	General population	Systemic
	DNEL	Long term Dermal	0.012 mg/cm²	Workers	Local
	DNEL	Long term Oral	0.013 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	0.05 mg/m³	Workers	Local
	DNEL	Long term Inhalation	0.05 mg/m³	Workers	Systemic
	DNEL	Short term Oral	0.37 mg/kg bw/day	General population	Systemic
	DNEL	Short term Inhalation	1.8 mg/m³	General population	Local
	DNEL	Short term Inhalation	18.9 mg/m³	Workers	Local

PNECs

No PNECs available

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.

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

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

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

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

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

9.1 Information on basic physical and chemical properties

Appearance

Physical state : 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.

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

Initial boiling point and boiling range : 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.

Upper/lower flammability or explosive limits : Gas Clean Filter Oxygen Not applicable.
Gas Clean Filter Moisture Not applicable.

Flash point : Gas Clean Filter Oxygen Not applicable.
Gas Clean Filter Moisture Closed cup: >535°C

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.

pH : 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.

Solubility(ies) :

Media	Result
Gas Clean Filter Oxygen	
water	Soluble
Gas Clean Filter Moisture	
water	Soluble

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

Vapour pressure : Not available.

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

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

Vapour density : Gas Clean Filter Oxygen Not applicable.
Gas Clean Filter Moisture Not applicable.

Explosive properties : Gas Clean Filter Oxygen Not available.
Gas Clean Filter Moisture Not available.

Oxidising properties : Gas Clean Filter Oxygen Not available.
Gas Clean Filter Moisture Not available.

Particle characteristics

Median particle size : Gas Clean Filter Oxygen Not available.
Gas Clean Filter Moisture Not available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity : 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 Oxygen: The product is stable.
Gas Clean Filter Moisture: The product is stable.

10.3 Possibility of hazardous reactions : 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 Oxygen: No specific data.
Gas Clean Filter Moisture: No specific data.

10.5 Incompatible materials : Gas Clean Filter Oxygen: May react or be incompatible with oxidising materials.
Gas Clean Filter Moisture: May react or be incompatible with oxidising materials.

10.6 Hazardous decomposition products : 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

Product/ingredient name	Result	Species	Dose	Exposure
Gas Clean Filter Oxygen				
copper(II) oxide	LD50 Dermal	Rat - Male, Female	>2000 mg/kg	-
	LD50 Oral	Rat	470 mg/kg	-
manganese dioxide	LD50 Oral	Rat	3478 mg/kg	-
nickel monoxide	LC50 Inhalation Dusts and mists	Rat - Male, Female	>5.08 mg/l	4 hours

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
Gas Clean Filter Oxygen					
Gas Clean Filter Oxygen	5814.0	N/A	N/A	N/A	3.2
manganese dioxide	500	N/A	N/A	N/A	1.5

Irritation/Corrosion

Conclusion/Summary : Not available.

Sensitiser

Conclusion/Summary : Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

SECTION 11: Toxicological information

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Gas Clean Filter Oxygen nickel monoxide	Category 1	-	-
Gas Clean Filter Moisture Quartz (SiO2) cristobalite	Category 1 Category 1	inhalation inhalation	lungs lungs

Aspiration hazard

Not available.

Information on likely routes of exposure : Gas Clean Filter Oxygen: Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
Gas Clean Filter Moisture: Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

Potential acute health effects

Inhalation : Gas Clean Filter Oxygen: Harmful if inhaled.
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.

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

Eye contact : 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

Inhalation : 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.

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

Eye contact : 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

Conclusion/Summary : Not available.

General : Gas Clean Filter Oxygen: No known significant effects or critical hazards.
Gas Clean Filter Moisture: May cause damage to organs through prolonged or repeated exposure.

SECTION 11: Toxicological information

Carcinogenicity	:	Gas Clean Filter Oxygen	May cause cancer. Risk of cancer depends on duration and level of exposure.
		Gas Clean Filter Moisture	No known significant effects or critical hazards.
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.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not available.

11.2.2 Other information

Gas Clean Filter Oxygen — Adverse symptoms may include the following: pulmonary fibrosis (dust). May cause skin sensitisation.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
Gas Clean Filter Oxygen			
copper(II) oxide	Acute LC50 2.6 mg/l Fresh water	Daphnia - *Daphnia magna* - Neonate	48 hours
	Acute LC50 >56000 ppm Fresh water	Fish - *Gambusia affinis* - Adult	96 hours
manganese dioxide	Acute EC50 >100 mg/l Fresh water	Algae - *Desmodesmus subspicatus*	72 hours
	Acute EC50 >100 mg/l Fresh water	Daphnia - *Daphnia magna*	48 hours
	Acute LC50 >100 mg/l Fresh water	Fish - *Oncorhynchus mykiss*	96 hours
	Acute NOEC >100 mg/l Fresh water	Fish - *Oncorhynchus mykiss*	96 hours
	Chronic NOEC 10 mg/l Fresh water	Daphnia - *Ceriodaphnia dubia*	8 days

12.2 Persistence and degradability

Not available.

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Gas Clean Filter Oxygen			
nickel monoxide	-	5613	High

12.4 Mobility in soil

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

12.5 Results of PBT and vPvB assessment

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

12.6 Endocrine disrupting properties

Not available.

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

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

Packaging

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

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of 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.

	ADR/RID	IMDG	IATA
14.1 UN number or ID number	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-
14.3 Transport hazard class(es)	-	-	-
14.4 Packing group	-	-	-
14.5 Environmental hazards	No.	No.	No.

Additional information

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

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

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

SECTION 15: Regulatory information

None of the components are listed.

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

Product / Ingredient name	Identifiers	Designation [Usage]
Gas Clean Filter Oxygen Gas Clean Filter Oxygen nickel monoxide		 28 28

Label : Gas Clean Filter Oxygen — Restricted to professional users.
Gas Clean Filter Moisture — Not applicable.

Other EU regulations

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Persistent Organic Pollutants

Not listed.

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category
Gas Clean Filter Oxygen E1

National regulations

Product/ingredient name	List name	Name on list	Classification	Notes
Gas Clean Filter Moisture				
Quartz (SiO2)	Ireland Occupational Exposure Limits	silica, crystalline respirable dust	Carc.	-
cristobalite	Ireland Occupational Exposure Limits	silica, crystalline respirable dust	Carc.	-

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.

Eurasian Economic Union : **Russian Federation inventory**: All components are listed or exempted.

SECTION 15: Regulatory information

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.

Philippines : Not determined.

Republic of Korea : Not determined.

Taiwan : All components are listed or exempted.

Thailand : All components are listed or exempted.

Turkey : Not determined.

United States : All components are active or exempted.

Viet Nam : Not determined.

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

SECTION 16: Other information

Indicates information that has changed from previously issued version.

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

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Gas Clean Filter Oxygen	
Acute Tox. 4, H332	Calculation method
Carc. 1A, H350	Calculation method
Aquatic Acute 1, H400	Calculation method
Aquatic Chronic 1, H410	Calculation method
Gas Clean Filter Moisture	
STOT RE 2, H373	Calculation method

Full text of abbreviated H statements

Gas Clean Filter Oxygen	
H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H332	Harmful if inhaled.
H350	May cause cancer.
H350i	May cause cancer by inhalation.
H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.
Gas Clean Filter Moisture	
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.

Full text of classifications [CLP/GHS]

SECTION 16: Other information

Gas Clean Filter Oxygen	
Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Acute 1	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
Aquatic Chronic 1	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
Aquatic Chronic 4	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 4
Carc. 1A	CARCINOGENICITY - Category 1A
Skin Sens. 1	SKIN SENSITISATION - Category 1
STOT RE 1	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 1
Gas Clean Filter Moisture	
STOT RE 1	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 1
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2

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