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

1.1 Product identifier

**Trade name** Chromium(III) sulfate hydrate

**Stock number:** 33303

**CAS Number:** 15244-38-9

**EC number:** 233-253-2

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

**Identified use:** SU24 Scientific research and development

1.3 Details of the supplier of the safety data sheet

**Manufacturer/Supplier:**

Alfa Aesar
Avocado Research Chemicals, Ltd.
Shore Road
Port of Heysham Industrial Park
Heysham Lancashire LA3 2XY
United Kingdom

**Office Tel:** +44 (0) 1524 850506
**Office Fax:** +44 (0) 1524 850608
**Email:** uktech@alfa.com

**Informing department:** Product safety department.

1.4 Emergency telephone number: Call Carechem 24 at +44 (0) 1865 407333 (English only); +44 (0) 1235 239670 (Multi-language)

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**SECTION 2: Hazards identification**

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

- **GHS07**
  - Acute Tox. 4 H302 Harmful if swallowed.
  - Acute Tox. 4 H332 Harmful if inhaled.
  - Skin Irrit. 2 H315 Causes skin irritation.
  - Eye Irrit. 2 H319 Causes serious eye irritation.
  - Skin Sens. 1 H317 May cause an allergic skin reaction.

2.2 Label elements

**Labelling according to Regulation (EC) No 1272/2008** The substance is classified and labelled according to the CLP regulation.

**Hazard pictograms**

- **GHS07**

2.3 Other hazards

Results of PBT and vPvB assessment

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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**SECTION 3: Composition/information on ingredients**

3.1 Substances

**CAS# Designation:** 15244-38-9 Chromium(III) sulfate hydrate

**EC number:** 233-253-2

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**SECTION 4: First aid measures**

4.1 Description of first aid measures

**After inhalation**

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist. Seek immediate medical advice.

**After skin contact**

Instantly wash with water and soap and rinse thoroughly. Seek immediate medical advice.

**After eye contact**

Rinse opened eye for several minutes under running water. Then consult doctor.

**After swallowing**

Seek medical treatment.

4.2 Most important symptoms and effects, both acute and delayed No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed No further relevant information available.

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**SECTION 5: Firefighting measures**

5.1 Extinguishing media

**Suitable extinguishing agents** Product is not flammable. Use fire-fighting measures that suit the surrounding fire.

5.2 Special hazards arising from the substance or mixture

If this product is involved in a fire, the following can be released:

- Sulphur oxides (SOx)
SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation.

6.2 Environmental precautions: Do not allow product to reach sewage system or water bodies.

6.3 Methods and material for containment and cleaning up:
Dispose of contaminated material as waste according to section 13.
Ensure adequate ventilation.

Prevention of secondary hazards: No special measures required.

6.4 Reference to other sections
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Handle under dry protective gas.
Keep containers tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation/exhaustion at the workplace.

Information about protection against explosions and fires: The product is not flammable

7.2 Conditions for safe storage, including any incompatibilities
Storage
Requirements to be met by storerooms and containers: No special requirements.
Information about storage in one common storage facility:
Store away from water.
Store away from oxidising agents.
Further information about storage conditions:
Store under dry inert gas.
This product is hygroscopic.
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
Protect from humidity and keep away from water.

7.3 Specific end use(s)
No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
Components with critical values that require monitoring at the workplace:
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: No data

8.2 Exposure controls
Personal protective equipment
General protective and hygienic measures
The usual precautionary measures should be adhered to in handling the chemicals.
Keep away from foodstuffs, beverages and food.
Instantly remove any soiled and impregnated garments.
Wash hands during breaks and at the end of the work.
Avoid contact with the eyes and skin.
Maintain an ergonomically appropriate working environment.

Breathing equipment: Use breathing protection with high concentrations.
Recommended filter device for short term use:
Use a respirator with type P100 (USA) or P3 (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards.

Protection of hands:
Check protective gloves prior to each use for their proper condition.
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Material of gloves: Nitrile rubber, NBR
Penetration time of glove material (in minutes) 480
Glove thickness 0.11 mm
Eye protection:
Safety glasses
Face protection

Body protection: Protective work clothing.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information
Appearance:
Form: Various forms (powder/flake/crystalline/beads, etc.)

Colour: Green to violet

Smell: Odourless

Odour threshold: Not determined.

pH-value: Not applicable.

Change in condition
Melting point/Melting range: Not determined
Boiling point/Boiling range: Not determined
Sublimation temperature / start: Not determined
Inflammability (solid, gaseous) Not determined.
Ignition temperature: Not determined
Decomposition temperature: Not determined
Self-ignitability: Not determined.

Danger of explosion: Not determined.

Critical values for explosion:
Lower: Not determined
Upper: Not determined
Trade name Chromium(III) sulfate hydrate

9.2.2 Other information
Not further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity
No information known.

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
Reacts with strong oxidising agents

10.4 Conditions to avoid
No further relevant information available.

10.5 Incompatible materials:
Water/moisture
Oxidising agents

10.6 Hazardous decomposition products:
Sulphur oxides (SOx)
Chromium oxides

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Acute toxicity: Not further relevant information available.

11.2 Persistence and degradability
No further relevant information available.

11.3 Bioaccumulative potential
No further relevant information available.

11.4 Mobility in soil
No further relevant information available.

11.5 Additional toxicological information:
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

SECTION 12: Ecological information

12.1 Toxicity
Aquatic toxicity: Not further relevant information available.

12.2 Persistence and degradability
No further relevant information available.

12.3 Bioaccumulative potential
No further relevant information available.

12.4 Mobility in soil
No further relevant information available.

12.5 Additional ecological information:
General notes:
Water hazard class 1 (Self-assessment): slightly hazardous for water.
Do not allow undiluted product or large quantities to reach ground water, water course or sewage system.
Avoid transfer into the environment.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Recommendation:
Hand over to disposers of hazardous waste.
Consult state, local or national regulations for proper disposal.

Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.
Recommended cleaning agent: Water, if necessary with cleaning agent.

SECTION 14: Transport information

UN-Number
ADR, ADN, IMDG, IATA: Not applicable

14.2 UN proper shipping name
ADR, ADN, IMDG, IATA: Not applicable

14.3 Transport hazard class(es)
ADR, ADN, IMDG, IATA: Not applicable

14.5 Environmental hazards:
Not applicable.
Trade name Chromium(III) sulfate hydrate

14.6 Special precautions for user
Not applicable.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable.

Safety Data Sheet
according to 1907/2006/EC, Article 31

SECTION 15: Regulatory information

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

Australian Inventory of Chemical Substances Substance is listed.

Standard for the Uniform Scheduling of Drugs and Poisons Substance is not listed.

15.2 Chemical safety assessment
A Chemical Safety Assessment has not been carried out.

UN "Model Regulation": -

SECTION 16: Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

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Department issuing SDS: Global Marketing Department

Abbreviations and acronyms:
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
vPvB: very Persistent and very Bioaccumulative
ACGIH: American Conference of Governmental Industrial Hygienists (USA)
OSHA: Occupational Safety and Health Administration (USA)
NTP: National Toxicology Program (USA)
IARC: International Agency for Research on Cancer
EPA: Environmental Protection Agency (USA)