



OPF PolyGranular 7-0-7-S Plant Health Cure

Version No: 4.13
Safety Data Sheet (Conforms to Regulation (EU) No 2015/830)

Issue Date: 11/11/2020
Print Date: 06/01/2021
S.REACH.GBR.EN

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

1.1. Product Identifier

| | |
|-------------------------------|--------------------------|
| Product name | OPF PolyGranular 7-0-7-S |
| Chemical Name | Not Applicable |
| Synonyms | Not Available |
| Other means of identification | Not Available |

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

| | |
|--------------------------|------------------------|
| Relevant identified uses | Plant based fertilizer |
| Uses advised against | Not Applicable |

1.3. Details of the supplier of the safety data sheet

| | |
|-------------------------|---|
| Registered company name | Plant Health Cure |
| Address | Veldweg 7 Oisterwijk 5061KJ Netherlands |
| Telephone | +31 137 200 300 |
| Website | www.phc.eu |
| Email | info@phc.eu |

1.4. Emergency telephone number

| | |
|-----------------------------------|-------------------|
| Association / Organisation | Plant Health Cure |
| Emergency telephone numbers | +31 137 200 301 |
| Other emergency telephone numbers | +31 651 328 508 |

SECTION 2 Hazards identification

2.1. Classification of the substance or mixture

| | |
|---|----------------|
| Classification according to regulation (EC) No 1272/2008 [CLP] and amendments [1] | Not Applicable |
|---|----------------|

2.2. Label elements

| | |
|---------------------|----------------|
| Hazard pictogram(s) | Not Applicable |
| Signal word | Not Applicable |

Hazard statement(s)

Not Applicable

Supplementary statement(s)

Not Applicable

Precautionary statement(s) Prevention

Not Applicable

Precautionary statement(s) Response

Not Applicable

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

OPF PolyGranular 7-0-7-S

Not Applicable

2.3. Other hazards

REACH - Art.57-59: The mixture does not contain Substances of Very High Concern (SVHC) at the SDS print date.

SECTION 3 Composition / information on ingredients

3.1. Substances

See 'Composition on ingredients' in Section 3.2

3.2. Mixtures

This mixture does not contain any substances hazardous to health and the environment and does not meet the criteria for classification in a hazard class according to Regulation (EC) No 1272/2008 and REACH annex II.

SECTION 4 First aid measures

4.1. Description of first aid measures

| | |
|---------------------|--|
| Eye Contact | <p>If this product comes in contact with eyes:</p> <ul style="list-style-type: none"> ▶ Wash out immediately with water. ▶ If irritation continues, seek medical attention. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. |
| Skin Contact | <p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> ▶ Flush skin and hair with running water (and soap if available). ▶ Seek medical attention in event of irritation. |
| Inhalation | <ul style="list-style-type: none"> ▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area. ▶ Other measures are usually unnecessary. |
| Ingestion | <ul style="list-style-type: none"> ▶ Immediately give a glass of water. ▶ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor. |

4.2. Most important symptoms and effects, both acute and delayed

See Section 11

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 Firefighting measures

5.1. Extinguishing media

- ▶ There is no restriction on the type of extinguisher which may be used.
- ▶ Use extinguishing media suitable for surrounding area.

5.2. Special hazards arising from the substrate or mixture

| | |
|-----------------------------|---|
| Fire Incompatibility | May emit toxic fumes under fire conditions. |
|-----------------------------|---|

5.3. Advice for firefighters

| | |
|------------------------------|---|
| Fire Fighting | ▶ Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. |
| Fire/Explosion Hazard | ▶ On decomposition product releases oxygen which may intensify fire. Oxides of sulfur. Magnesium oxide. |

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

See section 8

6.2. Environmental precautions

See section 12

6.3. Methods and material for containment and cleaning up

| | |
|---------------------|--|
| Minor Spills | <ul style="list-style-type: none"> ▶ Clean immediately after spillage. ▶ Avoid contact with skin and eyes. ▶ Wear impervious gloves and safety glasses. ▶ Prevent further leakage or spillage if safe to do so. ▶ After spillage sweep up and place spilled material in clean, dry, sealable, labelled container or plastic bags. |
| Major Spills | <ul style="list-style-type: none"> ▶ Evacuate personnel from the area and move upwind. ▶ Notify the fire brigade and state the location and nature of the hazard. ▶ Avoid personal contact by using protective equipment and dust respirator. |

Continued...

OPF PolyGranular 7-0-7-S

- ▶ Prevent spillage into drains, sewers or water courses.
- ▶ Prevent dust formation.
- ▶ Sweep, scoop up. Reuse product where possible.
- ▶ Place leftovers in labeled plastic bags or other waste containers. If the drains or waterways are contaminated, notify the emergency services.

6.4. Reference to other sections

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

7.1. Precautions for safe handling

| | |
|--------------------------------------|---|
| Safe handling | <ul style="list-style-type: none"> ▶ Limit all unnecessary personal contact. ▶ Wear recommended PPE. ▶ Avoid dust formation. Use in a well-ventilated area. ▶ Avoid contact with incompatible materials. ▶ When handling, DO NOT eat, drink or smoke. ▶ Keep containers securely sealed when not in use. ▶ Store in the original packaging. ▶ Store in a cool, dry place protected from extreme conditions. ▶ Avoid physical damage to containers. ▶ Always wash hands with soap and water after handling. ▶ Follow the manufacturer's storage and handling recommendations on this SDS. ▶ The atmosphere should be monitored regularly for exposure to ensure safe working conditions are maintained. |
| Fire and explosion protection | See section 5 |
| Other information | No specific requirements. |

7.2. Conditions for safe storage, including any incompatibilities

| | |
|--------------------------------|--|
| Suitable container | <p>Hygroscopic, store in a dry tightly closed container at room temperature, in a dry and well-ventilated place.</p> <ul style="list-style-type: none"> ▶ Lined metal tin, lined metal bucket / tin. ▶ Plastic bucket. ▶ Polyliner barrel. <p>Packaging as advised by manufacturer. Check that all containers are clearly labeled and leak proof.</p> |
| Storage incompatibility | <p>Avoid contamination of water, foodstuffs, feed or seed. None known</p> |

7.3. Specific end use(s)

See section 1.2

SECTION 8 Exposure controls / personal protection

8.1. Control parameters

| Ingredient | DNELs Exposure Pattern Worker | PNECs Compartment |
|---------------|----------------------------------|----------------------|
| Not Available | Not Available | Not Available |

* Values for General Population

Occupational Exposure Limits (OEL)

INGREDIENT DATA

| Source | Ingredient | Material name | TWA | STEL | Peak | Notes |
|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Not Available | Not Available | Not Available | Not Available | Not Available | Not Available | Not Available |

Not Applicable

Emergency Limits


| Ingredient | Material name | TEEL-1 | TEEL-2 | TEEL-3 |
|--------------------------|---------------|---------------|---------------|---------------|
| OPF PolyGranular 7-0-7-S | Not Available | Not Available | Not Available | Not Available |

| Ingredient | Original IDLH | Revised IDLH |
|-------------|---------------|---------------|
| polysulfate | Not Available | Not Available |

8.2. Exposure controls

| | |
|--|---|
| 8.2.1. Appropriate engineering controls | <p>Showers Eyewash stations Ventilation systems</p> |
|--|---|

OPF PolyGranular 7-0-7-S

| | |
|----------------------------|---|
| 8.2.2. Personal protection |  |
| Eye and face protection | Safety glasses or goggles may be desirable when emptying containers or drums. |
| Skin protection | See Hand protection below |
| Hands/feet protection | <p>The choice of suitable glove depends not only on the material, but also on other quality characteristics that vary from manufacturer to manufacturer. When using mixtures, the resistance of the glove materials is not pre-calculatable and must be checked before use. The suitability and durability of the glove type depends on the use. Important factors in the choice of gloves include:</p> <ul style="list-style-type: none"> ▶ Frequency and duration of contact ▶ Chemical resistance of glove material ▶ Glove thickness ▶ Agility user <p>Choose gloves that meet a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).</p> <ul style="list-style-type: none"> ▶ Where prolonged or frequently repeated contact may occur, gloves with a protection class 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161/10/01 or national equivalent) are recommended. ▶ When only a short-term contact is expected, gloves with a protection class 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS / NZS 2161/10/01 or national equivalent) are recommended. <p>Assessment gloves according to ASTM F-739-96, gloves are rated as:</p> <ul style="list-style-type: none"> ▶ Excellent: breakthrough time > 480 min . ▶ Good: breakthrough time > 20 min ▶ Reasonable: breakthrough time < 20 min ▶ Bad: glove material degrades <p>Wearing gloves only over clean hands. Contaminated gloves must be replaced. After using gloves, the hands should be thoroughly washed and dried. Use of non-perfumed moisturiser is recommended. Some types of polymer gloves affect movement and should be taken into account when used for long periods of time. For general applications, gloves with a thickness greater than 0.35 mm are recommended. Polymers, suitable for protective gloves, where grinding particles are not present: polychloropreen, nitrile rubber, butyl rubber, fluorocautchouc, polyvinyl chloride.</p> |
| Body protection | See Other protection below |
| Other protection | <p>No special equipment needed when handling small quantities.</p> <p>OTHERWISE:</p> <ul style="list-style-type: none"> ▶ Overalls. ▶ Barrier cream. ▶ Eyewash unit. |

Respiratory protection

Particulate. (AS/NZS 1716 & 1715, EN 143:2000 & 149:001, ANSI Z88 or national equivalent)

- ▶ Respirators may be necessary when engineering and administrative controls do not adequately prevent exposures.
- ▶ The decision to use respiratory protection should be based on professional judgment that takes into account toxicity information, exposure measurement data, and frequency and likelihood of the worker's exposure - ensure users are not subject to high thermal loads which may result in heat stress or distress due to personal protective equipment (powered, positive flow, full face apparatus may be an option).
- ▶ Published occupational exposure limits, where they exist, will assist in determining the adequacy of the selected respiratory protection. These may be government mandated or vendor recommended.
- ▶ Certified respirators will be useful for protecting workers from inhalation of particulates when properly selected and fit tested as part of a complete respiratory protection program.
- ▶ Use approved positive flow mask if significant quantities of dust becomes airborne.
- ▶ Try to avoid creating dust conditions.

8.2.3. Environmental exposure controls

See section 12

SECTION 9 Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | | | |
|--|--------------------------|---|----------------|
| Appearance | Granular (white - black) | | |
| Physical state | Solid | Relative density (Water = 1) | 0.95 |
| Odour | Slight | Partition coefficient n-octanol / water | Not Available |
| Odour threshold | Not Available | Auto-ignition temperature (°C) | Not Available |
| pH (as supplied) | 4-4.5 | Decomposition temperature | Not Available |
| Melting point / freezing point (°C) | Not Available | Viscosity (cSt) | 5000-20000 CPS |
| Initial boiling point and boiling range (°C) | Not Available | Molecular weight (g/mol) | Not Available |
| Flash point (°C) | Not Applicable | Taste | Not Available |
| Evaporation rate | Not Available | Explosive properties | Not Available |
| Flammability | Not Applicable | Oxidising properties | Not available |

Continued...

OPF PolyGranular 7-0-7-S

| | | | |
|---------------------------|-----------------|----------------------------------|----------------|
| Upper Explosive Limit (%) | Not Applicable | Surface Tension (dyn/cm or mN/m) | Not Applicable |
| Lower Explosive Limit (%) | Not Applicable | Volatile Component (%vol) | Not Available |
| Vapour pressure (kPa) | Not Available | Gas group | Not Available |
| Solubility in water | Partly miscible | pH as a solution (1%) | Not Available |
| Vapour density (Air = 1) | Not Available | VOC g/L | Not Available |

9.2. Other information

Not Available

SECTION 10 Stability and reactivity

| | |
|--|---|
| 10.1. Reactivity | See section 7 |
| 10.2. Chemical stability | Product is considered stable and hazardous polymerisation will not occur. |
| 10.3. Possibility of hazardous reactions | See section 7 |
| 10.4. Conditions to avoid | See section 7 |
| 10.5. Incompatible materials | See section 7 |
| 10.6. Hazardous decomposition products | See section 5.3 |

SECTION 11 Toxicological information

11.1. Information on toxicological effects

| | |
|--------------|---|
| Inhaled | The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting. |
| Ingestion | The material has NOT been classified by EC Directives or other classification systems as 'harmful by ingestion'. This is because of the lack of corroborating animal or human evidence. |
| Skin Contact | The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting. |
| Eye | Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may cause transient discomfort characterised by tearing or conjunctival redness (as with windburn). Slight abrasive damage may also result. |
| Chronic | Long-term exposure to the product is not thought to produce chronic effects adverse to the health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course. |

| | | |
|--------------------------|---|---------------|
| OPF PolyGranular 7-0-7-S | TOXICITY | IRRITATION |
| | Not Available | Not Available |
| polysulfate | TOXICITY | IRRITATION |
| | Not Available | Not Available |
| Legend: | 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. * Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances | |

| | | | |
|-----------------------------------|---|--------------------------|---|
| Acute Toxicity | ✗ | Carcinogenicity | ✗ |
| Skin Irritation/Corrosion | ✗ | Reproductive toxicity | ✗ |
| Serious Eye Damage/Irritation | ✗ | STOT - Single Exposure | ✗ |
| Respiratory or Skin sensitisation | ✗ | STOT - Repeated Exposure | ✗ |
| Germ cell mutagenicity | ✗ | Aspiration Hazard | ✗ |

Legend: ✗ – Data either not available or does not fill the criteria for classification
 ✓ – Data available to make classification

SECTION 12 Ecological information

12.1. Toxicity

| | | | | | |
|--------------------------|---------------|--------------------|---------------|---------------|---------------|
| OPF PolyGranular 7-0-7-S | Endpoint | Test Duration (hr) | Species | Value | Source |
| | Not Available | Not Available | Not Available | Not Available | Not Available |

Continued...

OPF PolyGranular 7-0-7-S

| polysulfate | Endpoint | Test Duration (hr) | Species | Value | Source |
|-------------|---------------|--------------------|---------------|---------------|---------------|
| | Not Available | Not Available | Not Available | Not Available | Not Available |

Legend: Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

12.2. Persistence and degradability

| Ingredient | Persistence: Water/Soil | Persistence: Air |
|------------|---------------------------------------|---------------------------------------|
| | No Data available for all ingredients | No Data available for all ingredients |

12.3. Bioaccumulative potential

| Ingredient | Bioaccumulation |
|------------|---------------------------------------|
| | No Data available for all ingredients |

12.4. Mobility in soil

| Ingredient | Mobility |
|------------|---------------------------------------|
| | No Data available for all ingredients |

12.5. Results of PBT and vPvB assessment

| | P | B | T |
|-------------------------|----------------|----------------|----------------|
| Relevant available data | Not Applicable | Not Applicable | Not Applicable |
| PBT Criteria fulfilled? | Not Applicable | Not Applicable | Not Applicable |

12.6. Other adverse effects

No data available

SECTION 13 Disposal considerations

13.1. Waste treatment methods

| | |
|-------------------------------------|---|
| Product / Packaging disposal | <ul style="list-style-type: none"> ▶ Do not allow to enter into surface water or drains. ▶ Dispose of waste according to applicable legislation and recommended by manufacturer. ▶ Product are non-hazardous and can be disposed by waste processing companies and don't require special attention. ▶ Empty packaging can be recycled with other plastic packaging or cardboard packaging. Recycling at designated waste processing companies for proper recycling. |
| Waste treatment options | Not Available |
| Sewage disposal options | Not Available |

SECTION 14 Transport information

No special requirements or precautions applicable.

| | |
|-------------------------|----------------|
| Marine Pollutant | NO |
| HAZCHEM | Not Applicable |

Land transport (ADR-RID)

| | | | | | | | | | | | |
|---|---|---------------------|----------------|--------------|----------------|--------------------|----------------|------------------|----------------|-------------------------|----------------|
| 14.1. UN number | Not Applicable | | | | | | | | | | |
| 14.2. UN proper shipping name | Not Applicable | | | | | | | | | | |
| 14.3. Transport hazard class(es) | <table border="1"> <tbody> <tr> <td>Class</td> <td>Not Applicable</td> </tr> <tr> <td>Subrisk</td> <td>Not Applicable</td> </tr> </tbody> </table> | Class | Not Applicable | Subrisk | Not Applicable | | | | | | |
| Class | Not Applicable | | | | | | | | | | |
| Subrisk | Not Applicable | | | | | | | | | | |
| 14.4. Packing group | Not Applicable | | | | | | | | | | |
| 14.5. Environmental hazard | Not Applicable | | | | | | | | | | |
| 14.6. Special precautions for user | <table border="1"> <tbody> <tr> <td>Classification code</td> <td>Not Applicable</td> </tr> <tr> <td>Hazard Label</td> <td>Not Applicable</td> </tr> <tr> <td>Special provisions</td> <td>Not Applicable</td> </tr> <tr> <td>Limited quantity</td> <td>Not Applicable</td> </tr> <tr> <td>Tunnel Restriction Code</td> <td>Not Applicable</td> </tr> </tbody> </table> | Classification code | Not Applicable | Hazard Label | Not Applicable | Special provisions | Not Applicable | Limited quantity | Not Applicable | Tunnel Restriction Code | Not Applicable |
| Classification code | Not Applicable | | | | | | | | | | |
| Hazard Label | Not Applicable | | | | | | | | | | |
| Special provisions | Not Applicable | | | | | | | | | | |
| Limited quantity | Not Applicable | | | | | | | | | | |
| Tunnel Restriction Code | Not Applicable | | | | | | | | | | |

Air transport (ICAO-IATA / DGR)

| | |
|--------------------------------------|----------------|
| 14.1. UN number | Not Applicable |
| 14.2. UN proper shipping name | Not Applicable |

OPF PolyGranular 7-0-7-S

| | | |
|------------------------------------|---|----------------|
| 14.3. Transport hazard class(es) | ICAO/IATA Class | Not Applicable |
| | ICAO / IATA Subrisk | Not Applicable |
| 14.4. Packing group | Not Applicable | |
| 14.5. Environmental hazard | Not Applicable | |
| 14.6. Special precautions for user | Cargo Only Packing Instructions | Not Applicable |
| | Cargo Only Maximum Qty / Pack | Not Applicable |
| | Passenger and Cargo Packing Instructions | Not Applicable |
| | Passenger and Cargo Limited Quantity Packing Instructions | Not Applicable |
| | Passenger and Cargo Limited Maximum Qty / Pack | Not Applicable |

Sea transport (IMDG-Code / GGVSee)

| | | |
|------------------------------------|--------------------|----------------|
| 14.1. UN number | Not Applicable | |
| 14.2. UN proper shipping name | Not Applicable | |
| 14.3. Transport hazard class(es) | IMDG Class | Not Applicable |
| | IMDG Subrisk | Not Applicable |
| 14.4. Packing group | Not Applicable | |
| 14.5. Environmental hazard | Not Applicable | |
| 14.6. Special precautions for user | EMS Number | Not Applicable |
| | Special provisions | Not Applicable |

Inland waterways transport (ADN)

| | | |
|------------------------------------|---------------------|----------------|
| 14.1. UN number | Not Applicable | |
| 14.2. UN proper shipping name | Not Applicable | |
| 14.3. Transport hazard class(es) | Not Applicable | Not Applicable |
| | | |
| 14.4. Packing group | Not Applicable | |
| 14.5. Environmental hazard | Not Applicable | |
| 14.6. Special precautions for user | Classification code | Not Applicable |
| | Special provisions | Not Applicable |
| | Limited quantity | Not Applicable |
| | Fire cones number | Not Applicable |

14.7. Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

SECTION 15 Regulatory information

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

polysulfate is found on the following regulatory lists

Not Applicable

This safety data sheet is in compliance with the following EU legislation and its adaptations - as far as applicable - : Directives 98/24/EC, - 92/85/EEC, - 94/33/EC, - 2008/98/EC, - 2010/75/EU; Commission Regulation (EU) 2015/830; Regulation (EC) No 1272/2008 as updated through ATPs.

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

ECHA SUMMARY

Not Applicable

| National Inventory | Status |
|--|------------------|
| Australia - AIIIC / Australia Non-Industrial Use | No (polysulfate) |
| Canada - DSL | No (polysulfate) |
| Canada - NDSL | No (polysulfate) |
| China - IECSC | No (polysulfate) |
| Europe - EINEC / ELINCS / NLP | No (polysulfate) |

Continued...

OPF PolyGranular 7-0-7-S

| National Inventory | Status |
|---------------------|------------------|
| Japan - ENCS | No (polysulfate) |
| Korea - KECI | No (polysulfate) |
| New Zealand - NZIoC | No (polysulfate) |
| Philippines - PICCS | No (polysulfate) |
| USA - TSCA | No (polysulfate) |
| Taiwan - TCSI | No (polysulfate) |
| Mexico - INSQ | No (polysulfate) |
| Vietnam - NCI | No (polysulfate) |
| Russia - ARIPS | No (polysulfate) |

Legend:
Yes = All CAS declared ingredients are on the inventory
No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)

SECTION 16 Other information

| | |
|---------------|------------|
| Revision Date | 11/11/2020 |
| Initial Date | 30/07/2020 |

Full text Risk and Hazard codes

SDS Version Summary

| Version | Issue Date | Sections Updated |
|------------|------------|--|
| 3.13.1.1.1 | 05/11/2020 | Appearance, Classification, Physical Properties, Supplier Information, Synonyms, Use |

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

For detailed advice on Personal Protective Equipment, refer to the following EU CEN Standards:

EN 166 Personal eye-protection

EN 340 Protective clothing

EN 374 Protective gloves against chemicals and micro-organisms

EN 13832 Footwear protecting against chemicals

EN 133 Respiratory protective devices

Powered by AuthorITe, from Chemwatch.