SAFETY DATA SHEET
CALCIUM CHLORIDE FLAKE

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

1.1. Product identifier

Product name: CALCIUM CHLORIDE FLAKE
REACH registered name: CALCIUM CHLORIDE
REACH registered number(s): 01-2119494219-28-XXXX
CAS number: 10043-52-4
EINECS number: 233-140-8
Product code: CALCHLF
Synonyms: CALCIUM DICHLORIDE

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

Use of substance / mixture: Beverage Processing Aids and Other Usages

1.3. Details of the supplier of the safety data sheet

Company name: Murphy and Son Ltd
Alpine Street
Nottingham
Nottinghamshire
NG6 0HQ
United Kingdom
Tel: 0115 978 5494
Email: technical@murphyandson.co.uk

1.4. Emergency telephone number

Emergency tel: +44 115 978 5494
(office hours only)

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Classification under CLP: Eye Irrit. 2: H319
Most important adverse effects: Causes serious eye irritation.

2.2. Label elements

Label elements under CLP:

Hazard statements: H319: Causes serious eye irritation.
Signal words: Warning
Hazard pictograms: GHS07: Exclamation mark

[cont...]
Precautionary statements:
- P264: Wash hands thoroughly after handling.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.
- P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337+313: If eye irritation persists: Get medical advice/attention.

2.3. Other hazards

PBT: This product is not identified as a PBT/vPvB substance.

Section 3: Composition/information on ingredients

3.1. Substances

Chemical identity: CALCIUM CHLORIDE FLAKE
CAS number: 10043-52-4
EINECS number: 233-140-8
REACH registered number(s): 01-2119494219-28-XXXX

Section 4: First aid measures

4.1. Description of first aid measures

Skin contact: Remove all contaminated clothes and footwear immediately unless stuck to skin. Wash immediately with plenty of soap and water.

Eye contact: Bathe the eye with running water for 15 minutes. Transfer to hospital for specialist examination.

Ingestion: Wash out mouth with water. Do not induce vomiting. If conscious, give half a litre of water to drink immediately. Consult a doctor.

Inhalation: Remove casualty from exposure ensuring one's own safety whilst doing so. Consult a doctor.

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

Skin contact: There may be irritation and redness at the site of contact.

Eye contact: There may be pain and redness. The eyes may water profusely. There may be severe pain. The vision may become blurred. May cause permanent damage.

Ingestion: There may be soreness and redness of the mouth and throat. Nausea and stomach pain may occur.

Inhalation: There may be irritation of the throat with a feeling of tightness in the chest.

Delayed / immediate effects: Immediate effects can be expected after short-term exposure.

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

Immediate / special treatment: Eye bathing equipment should be available on the premises.

Section 5: Fire-fighting measures
SAFETY DATA SHEET
CALCIUM CHLORIDE FLAKE

5.1. Extinguishing media

Extinguishing media: Suitable extinguishing media for the surrounding fire should be used. Use water spray to cool containers.

5.2. Special hazards arising from the substance or mixture

Exposure hazards: In combustion emits toxic fumes.

5.3. Advice for fire-fighters

Advice for fire-fighters: Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Mark out the contaminated area with signs and prevent access to unauthorised personnel. Do not attempt to take action without suitable protective clothing - see section 8 of SDS. Do not create dust.

6.2. Environmental precautions

Environmental precautions: Do not discharge into drains or rivers.

6.3. Methods and material for containment and cleaning up

Clean-up procedures: Transfer to a closable, labelled salvage container for disposal by an appropriate method.

6.4. Reference to other sections

Reference to other sections: Refer to section 8 of SDS.

Section 7: Handling and storage

7.1. Precautions for safe handling

Handling requirements: Avoid direct contact with the substance. Ensure there is sufficient ventilation of the area. Avoid the formation or spread of dust in the air.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in cool, well ventilated area. Keep container tightly closed.

7.3. Specific end use(s)

Specific end use(s): Beverage Processing Aids and Other Usages

Section 8: Exposure controls/personal protection

8.1. Control parameters

Workplace exposure limits: No data available.
SAFETY DATA SHEET
CALCIUM CHLORIDE FLAKE

DNEL/PNEC Values

| DNEL / PNEC | No data available. |

8.2. Exposure controls

- **Engineering measures**: Ensure there is sufficient ventilation of the area.
- **Respiratory protection**: Self-contained breathing apparatus must be available in case of emergency. Respiratory protective device with particle filter.
- **Hand protection**: Protective gloves.
- **Eye protection**: Tightly fitting safety goggles. Ensure eye bath is to hand.
- **Skin protection**: Protective clothing.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- **State**: Flakes
- **Colour**: White
- **Odour**: Odourless
- **Evaporation rate**: Not applicable.
- **Oxidising**: Non-oxidising (by EC criteria)
- **Solubility in water**: Highly soluble
- **Viscosity**: Not applicable.
- **Boiling point/range°C**: No data available.
- **Flammability limits %**: lower: Not applicable. upper: Not applicable.
- **Flash point°C**: Not applicable.
- **Autoflammability°C**: Not applicable.
- **Relative density**: 2.32
- **VOC g/l**: Not applicable.
- **Melting point/range°C**: 176
- **Part.coeff. n-octanol/water**: Not applicable.
- **Vapour pressure**: No data available.
- **pH**: 4.5-9.2 (5%)

9.2. Other information

- **Other information**: No data available.

Section 10: Stability and reactivity

10.1. Reactivity

- **Reactivity**: Stable under recommended transport or storage conditions.

10.2. Chemical stability

- **Chemical stability**: Stable under normal conditions.

10.3. Possibility of hazardous reactions

- **Hazardous reactions**: Hazardous reactions will not occur under normal transport or storage conditions. Decomposition may occur on exposure to conditions or materials listed below.
SAFETY DATA SHEET
CALCIUM CHLORIDE FLAKE

10.4. Conditions to avoid

Conditions to avoid: Heat.

10.5. Incompatible materials

Materials to avoid: Strong oxidising agents. Strong acids.

10.6. Hazardous decomposition products

Haz. decomp. products: In combustion emits toxic fumes.

Section 11: Toxicological information

11.1. Information on toxicological effects

Toxicity values:

<table>
<thead>
<tr>
<th>Route</th>
<th>Species</th>
<th>Test</th>
<th>Value</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPR</td>
<td>RAT</td>
<td>LD50</td>
<td>264</td>
<td>mg/kg</td>
</tr>
<tr>
<td>ORL</td>
<td>MUS</td>
<td>LD50</td>
<td>1940</td>
<td>mg/kg</td>
</tr>
<tr>
<td>ORL</td>
<td>RAT</td>
<td>LD50</td>
<td>1</td>
<td>gm/kg</td>
</tr>
<tr>
<td>SCU</td>
<td>RAT</td>
<td>LD50</td>
<td>2630</td>
<td>mg/kg</td>
</tr>
</tbody>
</table>

Hazardous ingredients:

CALCIUM CHLORIDE

<table>
<thead>
<tr>
<th>Route</th>
<th>Species</th>
<th>Test</th>
<th>Value</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPR</td>
<td>RAT</td>
<td>LD50</td>
<td>264</td>
<td>mg/kg</td>
</tr>
<tr>
<td>ORL</td>
<td>MUS</td>
<td>LD50</td>
<td>1940</td>
<td>mg/kg</td>
</tr>
<tr>
<td>ORL</td>
<td>RAT</td>
<td>LD50</td>
<td>1</td>
<td>gm/kg</td>
</tr>
<tr>
<td>SCU</td>
<td>RAT</td>
<td>LD50</td>
<td>2630</td>
<td>mg/kg</td>
</tr>
</tbody>
</table>

Relevant hazards for substance:

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Route</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious eye damage/irritation</td>
<td>OPT</td>
<td>Hazardous: calculated</td>
</tr>
</tbody>
</table>

Symptoms / routes of exposure

- **Skin contact:** There may be irritation and redness at the site of contact.
- **Eye contact:** There may be pain and redness. The eyes may water profusely. There may be severe pain. The vision may become blurred. May cause permanent damage.
- **Ingestion:** There may be soreness and redness of the mouth and throat. Nausea and stomach pain may occur.
- **Inhalation:** There may be irritation of the throat with a feeling of tightness in the chest.
- **Delayed / immediate effects:** Immediate effects can be expected after short-term exposure.

Section 12: Ecological information
12.1. Toxicity

Ecotoxicity values:

<table>
<thead>
<tr>
<th>Species</th>
<th>Test</th>
<th>Value</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>FISH</td>
<td>96H LC50</td>
<td>13400</td>
<td>mg/l</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

Persistence and degradability: Not biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential: Bioaccumulation potential.

12.4. Mobility in soil

12.5. Results of PBT and vPvB assessment

PBT identification: This product is not identified as a PBT/vPvB substance.

12.6. Other adverse effects

Other adverse effects: Negligible ecotoxicity.

Section 13: Disposal considerations

13.1. Waste treatment methods

Disposal operations: Transfer to a suitable container and arrange for collection by specialised disposal company.

NB: The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

Section 14: Transport information

Transport class: This product does not require a classification for transport.

Section 15: Regulatory information

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

Specific regulations: Not applicable.

15.2. Chemical Safety Assessment

Section 16: Other information

Other information: This safety data sheet is prepared in accordance with Commission Regulation (EU) No 453/2010.

* indicates text in the SDS which has changed since the last revision.

Phrases used in s.2 and s.3: H319: Causes serious eye irritation.

Legend to abbreviations: PNEC = predicted no effect concentration
DNEL = derived no effect level
LD50 = median lethal dose
LC50 = median lethal concentration
LDLO = lethal dose low
EC50 = median effective concentration
IC50 = median inhibitory concentration
dw = dry weight
bw = body weight
cc = closed cup
oc = open cup
MUS = mouse
GPG = guinea pig
RBT = rabbit
HAM = hamster
HMN = human
MAM = mammal
PGN = pigeon
IVN = intravenous
SCU = subcutaneous
SKN = skin
DRM = dermal
OCC = ocular/corneal
OPT = optical
INH = inhalation
PCP = physico-chemical properties

Legal disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.