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

**Date issued:** 12.11.2012

**1.1. Product identifier**

<table>
<thead>
<tr>
<th>Product name</th>
<th>Potassium Hydroxide Flake</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synonyms</td>
<td>Potassium Hydroxid Flak</td>
</tr>
<tr>
<td>REACH Reg No</td>
<td>01-2119487136-33</td>
</tr>
<tr>
<td>CAS no.</td>
<td>1310-58-3</td>
</tr>
<tr>
<td>EC no.</td>
<td>215-181-3</td>
</tr>
</tbody>
</table>

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

Use of the substance/preparation: Catalyst in chemical processes. Production of alkaline soap.

**1.3. Details of the supplier of the safety data sheet**

**Distributor**

<table>
<thead>
<tr>
<th>Company name</th>
<th>Acinor AS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office address</td>
<td>Titangt. 13, NO-1630 Gamle Fredrikstad</td>
</tr>
<tr>
<td>Postal address</td>
<td>Titangaten 13</td>
</tr>
<tr>
<td>Postcode</td>
<td>1630</td>
</tr>
<tr>
<td>City</td>
<td>Gamle Fredrikstad</td>
</tr>
<tr>
<td>Country</td>
<td>Norway</td>
</tr>
<tr>
<td>Tel</td>
<td>69384082</td>
</tr>
<tr>
<td>Fax</td>
<td>69384084</td>
</tr>
<tr>
<td>E-mail</td>
<td><a href="mailto:post@acinor.no">post@acinor.no</a></td>
</tr>
<tr>
<td>Website</td>
<td><a href="http://www.acinor.no">http://www.acinor.no</a></td>
</tr>
<tr>
<td>Enterprise no.</td>
<td>NO 984 648 324 MVA</td>
</tr>
<tr>
<td>Contact person</td>
<td>Rolf Egil de Flon</td>
</tr>
</tbody>
</table>

**1.4. Emergency telephone number**

| Emergency telephone | Toxic Information: 22 59 13 00 |

---

**SECTION 2: Hazards identification**

**2.1. Classification of the substance or mixture**

<table>
<thead>
<tr>
<th>Classification according to</th>
<th>C; R35</th>
<th>Xn; R22</th>
</tr>
</thead>
<tbody>
<tr>
<td>67/548/EEC or 1999/45/EC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classification according to</td>
<td>Acute tox. 4; H302</td>
<td>Skin Corr 1A; H314</td>
</tr>
<tr>
<td>Regulation (EC) No 1272/2008</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[CLP/GHS]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Substance / mixture hazardous properties**

Harmful if swallowed. Causes severe skin burns and eye damage.

**2.2. Label elements**

**Hazard Pictograms (CLP)**

<table>
<thead>
<tr>
<th>Composition on the label</th>
<th>Caustic potash: &gt; 90 %</th>
</tr>
</thead>
</table>
2.3. Other hazards

PBT / vPvB 
PBT/vPvB assessment has not been performed.

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

<table>
<thead>
<tr>
<th>Component name</th>
<th>Identification</th>
<th>Classification</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caustic potash</td>
<td>CAS no.: 1310-58-3</td>
<td>C; R35</td>
<td>&gt; 90 %</td>
</tr>
<tr>
<td></td>
<td>EC no.: 215-181-3</td>
<td>Xn; R22</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Index no.: 019-002-00-8</td>
<td>Acute tox. 4; H302</td>
<td></td>
</tr>
<tr>
<td>Synonyms: Potassium hydroxide</td>
<td></td>
<td>Skin Corr. 1A; H314</td>
<td></td>
</tr>
</tbody>
</table>

Component comments: See section 16 for explanation of H- and R-phrases listed above.

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

**General**
If in doubt, seek medical advice.

**Inhalation**
Fresh air and rest. Get medical attention if any discomfort continues. For breathing difficulties oxygen may be necessary. Perform artificial respiration if breathing has stopped.

**Skin contact**
Remove contaminated clothing. Wash the skin immediately with soap and water. Important to remove the substance from the skin immediately. Get medical attention. Chemical burns must be treated by a physician. Wash contaminated clothes before reuse.

**Eye contact**
Promptly rinse eyes with plenty of water (tempered at 20-30°C) for at least 15 minutes. Remove contact lenses and open eyes wide apart. Immediately consult a doctor. Immediately transport to hospital or eye specialist. Continue flushing during transport to hospital. Do not use neutralizing agents.

**Ingestion**
Do not induce vomiting. Rinse mouth thoroughly with water and give large amounts of milk or water to people not unconscious. Immediately consult a doctor. Risk of perforation of esophagus and stomach. Transport to hospital. Bring the safety data sheet.

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

**Information for health personnel**
Treat Symptomatically. Treat as thermal burns.

**Acute symptoms and effects**
Highly corrosive and may cause severe pain. Corrosive to the eyes, danger of vision impairment / blindness, burning nose, chemical burns to the skin. Causes burns if swallowed. Causes burning sensation in the mouth, throat and esophagus. May cause serious permanent damage. Inhalation of product may cause irritation, high levels can cause difficulty in breathing and possible lung damage. Inhalation of high concentrations of this product may cause the same symptoms if swallowed.

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

**Other Information**
No specific treatment required, see section 4.1.
SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.
Improper extinguishing media: Do not use water jet.

5.2. Special hazards arising from the substance or mixture
Fire and explosion hazards: The product is not classified as flammable.
Hazardous combustion products: Highly corrosive gases/vapors/fumes.

5.3. Advice for firefighters
Personal protective equipment: Use fresh air equipment when the product is involved in fire. In case of evacuation, an approved protection mask should be used. See also section 8.
Other Information: Containers close to fire should be removed immediately or cooled with water. Extinguishing water must not be discharged into drains.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Personal precautions: Use protective equipment as referred to in section 8. Avoid contact with skin and eyes. Avoid inhalation of dust. Look out! The product is corrosive.

6.2. Environmental precautions
Environmental precautions: Do not allow to enter into sewer, water system or soil.

6.3. Methods and material for containment and cleaning up
Methods for cleaning: Use mechanical handling equipment. Collect in a suitable container and dispose as hazardous waste according to section 13.
Cleaning up: Limit spread of spilled material. Small amounts could be picked up using moist disposable cloth. Wash the contaminated surface with water.

6.4. Reference to other sections
Other instructions: See also sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Handling: Use protective equipment as referred to in section 8. Provide adequate ventilation. Avoid direct contact. Use work methods which minimise dust production. Avoid inhalation of dust. Avoid spilling, skin and eye contact. Change contaminated clothing.

Protective Measures
Advice on general occupational hygiene: Wash hands at the end of each work shift and before eating, smoking and using the toilet. Do not eat, drink or smoke during work.

7.2. Conditions for safe storage, including any incompatibilities
Storage: Store dry and cool in a well ventilated area. Store in tightly closed container. Corrosive storage.
Conditions To Avoid: Keep away from heat, sparks and open flame.

7.3. Specific end use(s)
Specific use(s): See section 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
### Exposure limit values

<table>
<thead>
<tr>
<th>Component name</th>
<th>Identification</th>
<th>Value</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caustic potash</td>
<td>CAS no.: 1310-58-3</td>
<td>15 min.: 2 mg/m³</td>
<td>2011</td>
</tr>
<tr>
<td></td>
<td>EC no.: 215-181-3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Index no.: 019-002-00-8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Synonyms:</td>
<td>Potassium hydroxide</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 8.2. Exposure controls

**Occupational exposure controls**

Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment. Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

**Respiratory protection**

In case of inadequate ventilation or risk of inhalation of dust, use suitable respiratory equipment with particle filter (type P3).

**Hand protection**

- **Hand protection**: Use chemical resistant gloves.
- **Necessary hand protection properties**: Use gloves with long sleeves.
- **Suitable materials**: Nitrile. Polyvinyl chloride (PVC). Neoprene. 4H multilayered gloves.
- **Breakthrough time**: Penetration time is not known. The recommended material of gloves is recommended after a study of the single components in the product.

**Eye / face protection**

- **Eye protection**: Wear dust resistant safety goggles where there is danger of eye contact.

**Skin protection**

- **Skin protection (other than of the hands)**: Wear appropriate protective clothing to protect against possible skin contact.
- **Additional skin protection measures**: Wash promptly if skin becomes wet or contaminated. Promptly remove any clothing that becomes wet or contaminated.

**Other Information**

- **Other Information**: The listed protective equipment is a recommendation. A risk assessment of the actual risk may lead to other requirements. Eye wash facilities and emergency shower should be available when handling this product.

### 9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Solid.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>White.</td>
</tr>
<tr>
<td>Odour</td>
<td>No characteristic odour.</td>
</tr>
<tr>
<td>Comments, Odour limit</td>
<td>Not known.</td>
</tr>
<tr>
<td>pH (as supplied)</td>
<td>Value: &gt; 14</td>
</tr>
<tr>
<td>Melting point/melting range</td>
<td>Value: 200 °C</td>
</tr>
<tr>
<td>Comments, Boiling point / boiling range</td>
<td>Not known.</td>
</tr>
<tr>
<td>Comments, Flash point</td>
<td>Not known.</td>
</tr>
<tr>
<td>Comments, Evaporation rate</td>
<td>Not known.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not known.</td>
</tr>
<tr>
<td>Comments, Explosion limit</td>
<td>Not known.</td>
</tr>
<tr>
<td>Comments, Vapour pressure</td>
<td>Not known.</td>
</tr>
<tr>
<td>Comments, Vapour density</td>
<td>Not known.</td>
</tr>
</tbody>
</table>
Specific gravity Value: 0.9
Solubility in water Soluble.
Comments, Partition coefficient: n-octanol / water Not known.
Comments, Spontaneous combustibility Not known.
Comments, Decomposition temperature Not known.
Comments, Viscosity Not known.

Physical hazards
Explosive properties Not known.
Oxidising properties Not known.

9.2. Other information
Other physical and chemical properties
Physical and chemical properties Not known.

SECTION 10: Stability and reactivity

10.1. Reactivity
Reactivity Data lacking.

10.2. Chemical stability
Stability Stable under normal temperature conditions and recommended use. The substance is hygroscopic and will absorb water by contact with the moisture in the air. Risk of exothermic reaction.

10.3. Possibility of hazardous reactions
Possibility of hazardous reactions Arise in contact with incompatible materials (section 10.5) and inappropriate conditions (section 10.4). Corrosive to some metals, may evolve hydrogen gas that may form explosive mixtures with air.

10.4. Conditions to avoid
Conditions to avoid Moisture.

10.5. Incompatible materials

10.6. Hazardous decomposition products
Hazardous decomposition products None under normal conditions. See also section 5.2.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Toxicological Information:
LD50 oral Value: 365 mg/kg
Test animal species: Rat
Comments: 25% solution.

Other information regarding health hazards
General Causes severe burns.

Potential acute effects
Inhalation Highly Corrosive. Dust irritates the respiratory system, and may cause coughing and difficulties in breathing. Dust is corrosive. After 24-36 hours, injured persons may develop serious shortness of breath and lung oedema. High concentrations may cause severe lung damage.
Skin contact Causes severe burns. May cause serious chemical burns to the skin. Cause blisters and burns.
Eye contact Strongly corrosive. Causes severe burns and serious eye damage. Immediate first aid is imperative. Risk of permanent corneal damage, loss of sight and...
Ingestion

Harmful if swallowed. Causes burns if swallowed. Causes burning sensation in the mouth, throat and esophagus. May cause serious permanent damage.

**Delay / Repeating**

Sensitisation

None of the substances mentioned in section 3 is considered to have sensitizing effects according to current labelling rules.

**Carcinogenic, Mutagenic or Reprotoxic**

Carcinogenicity

None of the substances mentioned in section 3 is considered as carcinogenic according to current labelling rules.

Mutagenicity

None of the substances mentioned in section 3 are considered to have mutagenic or pro-mutagenic effects.

Teratogenic properties

None of the substances mentioned in section 3 are considered to cause harm to the unborn child.

Reproductive toxicity

None of the substances mentioned in section 3 are considered to have genotoxic effects.

**Symptoms of Exposure**

Other Information

In case of eyedamage, continue to flush with water all the way to the doctor. Chemical burns to skin may be treated as fire caused wounds. Splash in eye requires examination by eye specialist.

**SECTION 12: Ecological information**

12.1. Toxicity

<table>
<thead>
<tr>
<th>Acute aquatic, Daphnia</th>
<th>Value: 270 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method of testing:</td>
<td>LC50</td>
</tr>
<tr>
<td>Duration:</td>
<td>24 hours</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Acute aquatic, Daphnia</th>
<th>Value: 30 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method of testing:</td>
<td>EC50</td>
</tr>
<tr>
<td>Duration:</td>
<td>48 hours</td>
</tr>
</tbody>
</table>

Ecotoxicity

The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. The product may affect the acidity (pH-factor) in water with risk of harmful effects to aquatic organisms. Evaluate the necessity of neutralization.

12.2. Persistence and degradability

Persistence and degradability

The product consists mainly of inorganic materials which are not biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential

Not expected to bioaccumulate.

12.4. Mobility in soil

Mobility

Soluble in water.

12.5. Results of PBT and vPvB assessment

PBT assessment results

PBT assessment has not been performed.

vPvB evaluation results

vPvB assessment has not been performed.

12.6. Other adverse effects

Other adverse effects / Remarks

Alkalies cause increased pH values in the water. A high pH value harms aquatic organisms. Do not allow to enter into sewer, water system or soil.

**SECTION 13: Disposal considerations**

13.1. Waste treatment methods

Specify the appropriate methods of disposal

Disposed of as hazardous waste by approved contractor. The waste code (EWC-Code) is intended as a guide. The code must be chosen by the user, if the use differs from the one mentioned above.
Product classified as hazardous waste: Yes

EWC waste code: EWC: *06 02 04 sodium and potassium hydroxide
NORSAS: 7132 Bases, unorganic.

SECTION 14: Transport information

14.1. UN number
ADR: 1813
RID: 1813
IMDG: 1813
ICAO/IATA: 1813

14.2. UN proper shipping name
ADR: POTASSIUM HYDROXIDE, SOLID
RID: POTASSIUM HYDROXIDE, SOLID
IMDG: POTASSIUM HYDROXIDE, SOLID
ICAO/IATA: POTASSIUM HYDROXIDE, SOLID

14.3. Transport hazard class(es)
ADR: 8
Hazard no.: 80
RID: 8
IMDG: 8
ICAO/IATA: 8

14.4. Packing group
ADR: II
RID: II
IMDG: II
ICAO/IATA: II

14.5. Environmental hazards
IMDG: Marine pollutant: No

14.6. Special precautions for user
EmS: F-A, S-B

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Other applicable information: Not applicable.

SECTION 15: Regulatory information

EC no.: 215-181-3

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

Regulation on classification, labeling and packaging of substances and mixtures (CLP) dated 16.06.2012.
Administrative norms for pollution of the atmosphere, the latest edition, from Norwegian labour inspection authority
Dangerous Goods regulations.
The Safety Data Sheet is based on information provided by the producer.

Declaration no. 94305

15.2. Chemical safety assessment

Chemical safety assessment has been carried out No

SECTION 16: Other information

| Supplier's notes | The information contained in this SDS must be made available to all those who handle the product. |
| Classification according to Regulation (EC) No 1272/2008 [CLP/GHS] | Acute tox. 4; H302; Skin Corr 1A; H314; |
| List of relevant R phrases (under headings 2 and 3). | R22 Harmful if swallowed. R35 Causes severe burns. |
| List of relevant H-phrases (Section 2 and 3). | H302 Harmful if swallowed. H314 Causes Severe skin burns and eye damage. |
| Abbreviations and acronyms used | PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative |
| Sources of key data used to compile the safety data sheet | Version: 2 from supplier, dated: 06.01.2011. |
| Information which has been added, deleted or revised | New Safety Data Sheet. |
| Checking quality of information | This SDS is quality controlled by National Institute of Technology in Norway, certified according to the Quality Management System requirements specified in ISO 9001:2008. |
| Responsible for safety data sheet | Acinor AS |
| Prepared by | National Institute of Technology as, Norway v/ Camilla M. Ormset |