SAFETY DATA SHEET
A32/ABC

According to Dir.CEE N.453/2010 (REACH)

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier
Trades name: A32/ABC

1.2. Relevant identified uses of the substance or mixture and uses advised against
The product for use in fire extinguishing of class A, B and C. The formulation acts as an inhibitor of fires burning solid, liquid and / or gaseous. Recommended use in special containers for specific discharge.

1.3. Details of the supplier of the safety data sheet
ANAF S.P.A.
Via del Commercio, 4
27020 Torre d’Isola
Tel. 0039 (0)382 45 33
Fax: 0039 (0)382 92 02 79
e-mail: info@anaf.eu
Internet: www.anaf.eu

1.4. Emergency telephone number
Ing. Danilo Romano
Tel. 0039 (0)382 45 33

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008:

Pictograms: None
Hazard Class and Category Code(s): Non hazardous
Hazard statement Code(s): Non hazardous
Classification according to Directive 1999/45/EEC:
Classification: Non hazardous
Nature of special risks attributed: None in particular

2.2. Label elements
Labelling according to Regulation (EC) No 1272/2008

Pictogram, Signal Word Code(s): None
Hazard statement Code(s): None
Precautionary statements: Non hazardous

2.3. Other hazards
The substance / mixture NOT contains substances PBT/vPvB according to Regulation (EC) No 1907/2006, Annex XIII

The preparation is in the form of fine powder, easily form suspensions in air in movement and may create aerosols. Prolonged exposure to any type of powder can be potentially harmful. There are no previous episodes of acute oral
SAFETY DATA SHEET
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According to Dir.CEE N.453/2010 (REACH)

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Composizione/informazioni sugli ingredienti

<table>
<thead>
<tr>
<th>Substance</th>
<th>Conc. %</th>
<th>Classification Dir 67/548</th>
<th>Classification Reg 1272/08</th>
<th>REACh</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMMONIUM SULFATE</td>
<td>50 ÷ 100</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMMONIUM PHOSPHATE MONOBASIC</td>
<td>20 ÷ 30</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

4.1. Description of first aid measures

Inhalation:
In case of leakage of the powder product may appear tingling, trouble in coughing or sneezing. Move immediately the contaminated patient from the area and keep him at rest in a well ventilated area. If you feel unwell seek medical advice.

Direct contact with skin (of the pure product):
Wash thoroughly with soap and running water.

Direct contact with eyes (of the pure product):
Wash immediately and thoroughly with running water for at least 10 minutes.

Ingestion:
Do not induce vomiting or emesis. Seek immediate medical assistance.

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

No data available.

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

IF SWALLOWED you feel unwell: Call a POISON CENTER or physician.
IF exposed or possible exposure, consult a physician.
If irritation or rash occurs: Get medical advice.
If experiencing respiratory symptoms: Call a POISON CENTER or physician.
If you feel unwell, seek medical advice.

5. FIREFIGHTING MEASURES

5.1. Extinguishing media
The mixture is a fire extinguisher agent for fires of class A, B and C.

5.2. Special hazards arising from the substance or mixture
Special hazards: Heating to decomposition releases toxic. If accidentally mixed with oxidants (chlorate, potassium nitrate or nitrite) risk of explosion when burning.
Hazardous combustion products: nitrogen oxides, ammonia, may release phosphorus oxides and may sulphur dioxide and trioxide release.

5.3. Advice for firefighters
Specific methods of firefighting: open doors and Windows of the room to allow maximum ventilation. Do not breathe vapors (toxic). Ask a favour of the wind in relation to the fire.
Pour cold water containers exposed to flames until the fire will not be extinct.
Special protection in the fight against fire: in case of presence of vapors use a self-contained breathing apparatus. Place of fire debris and contaminated water in accordance with official regulations.
6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel:
- Wear gloves and protective clothing.

6.1.2 For emergency responders:
- Wear gloves and protective clothing
- Eliminate all unguarded flames and possible sources of ignition. No smoking.
- Provision of sufficient ventilation.
- Evacuate the danger area and, in case, consult an expert.

6.2. Environmental precautions
- Contain spill.
- If the product has flowed into the water, into the drainage system, or has contaminated the ground or vegetation, notify the competent authorities.
- Dispose of waste in compliance with current regulations.

6.3. Methods and material for containment and cleaning up

6.3.1 For containment:
- Rapidly recover the product, wear a mask and protective clothing
- Recover the product for reuse, if possible, or for removal. Possibly absorb it with inert material.
- Prevent it from entering the sewer system.

6.3.2 For cleaning up:
- After wiping up, wash with water the area and materials involved

6.3.3 Other information:
- None in particular.

6.4. Reference to other sections
- Refer to paragraphs 8 and 13 for more information

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

7.1.1 Recommendations
- Avoid excessive generation of dust.
- Avoid contamination by combustible material (e.g., oil, grease, etc.) and incompatible material.
- Avoid unnecessary exposure to the atmosphere to prevent moisture absorption.
- When handling the product over long periods use appropriate personal protective equipment, e.g., gloves.
- Carefully clean the facility before performing maintenance or repairs.
- Prevent entry into drains, basements or confined areas.

7.1.2 Cautions concerning general hygiene
- Do not eat, drink or smoke while handling. After handling, wash hands with soap and water. The contaminated work clothing should not be allowed out of the workplace.
- For exposure control and individual protection measures, see section 8.

7.2. Conditions for safe storage, including any incompatibilities
- Keep in original container closed tightly. Do not store in open or unlabeled containers.
- Keep containers upright and safe by avoiding the possibility of falls or collisions.
- Store in a cool place, away from sources of heat and direct exposure of sunlight.
- Storage temperature -30°C/+60°C. Do not store if partially used.

7.3. Specific end use(s)
- Multipurpose powder for fire extinguisher approved for the extinction of fire of class A, B and C.
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

<table>
<thead>
<tr>
<th>AMMONIUM SULFATE</th>
<th>DNEL Systemic effects</th>
<th>Inhalation (mg/m³)</th>
<th>Dermic (mg/kg bw/day)</th>
<th>Oral (mg/kg bw/day)</th>
<th>Inhalation (mg/m³)</th>
<th>Dermic (mg/kg bw/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Workers</td>
<td></td>
<td></td>
<td></td>
<td>Population</td>
<td></td>
</tr>
<tr>
<td>Long term</td>
<td>11,17</td>
<td>42,67</td>
<td>6,4</td>
<td>1,67</td>
<td>12,8</td>
<td></td>
</tr>
<tr>
<td>Short term</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMMONIUM PHOSPHATE MONOBASIC</td>
<td>DNEL Systemic effects</td>
<td>Inhalation (mg/m³)</td>
<td>Dermic (mg/kg bw/day)</td>
<td>Oral (mg/kg bw/day)</td>
<td>Inhalation (mg/m³)</td>
<td>Dermic (mg/kg bw/day)</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td></td>
<td></td>
<td></td>
<td>Population</td>
<td></td>
</tr>
<tr>
<td>Long term</td>
<td>6,1</td>
<td>34,7</td>
<td>2,1</td>
<td>1,8</td>
<td>20,8</td>
<td></td>
</tr>
<tr>
<td>Short term</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PNEC</th>
<th>Freshwater (mg/L)</th>
<th>Fw Sediments (mg/kg/sedim)</th>
<th>Seawater (mg/L)</th>
<th>Sw Sediments (mg/kg/sedim)</th>
<th>Intermittent em. (mg/L)</th>
<th>STP (mg/L)</th>
<th>Soil (mg/kg soil)</th>
<th>Air (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMMONIUM SULFATE</td>
<td>0,312</td>
<td>0,063</td>
<td>0,0312</td>
<td></td>
<td>0,53</td>
<td>16,18</td>
<td>62,6</td>
<td></td>
</tr>
<tr>
<td>AMMONIUM PHOSPHATE MONOBASIC</td>
<td>1,7</td>
<td>0,17</td>
<td>0,17</td>
<td></td>
<td>17</td>
<td>17</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Appropriate engineering controls:
Hygienic controls: Avoid high concentrations of dust and calibrate the ventilation where necessary. During handling do not eat, do not drink and do not smoke. Wash hands after handling and before eating, drinking or smoking. At the end of the workday using the sink.

Individual protection measures:

- **Eye / face protection:** When handling the pure product use safety glasses (spectacles cage) (EN 166).

- **Hand protection:** Not needed for normal use.

- **Other:** When handling the pure product wear full protective skin clothing.

- **Respiratory protection:** Not needed for normal use

- **Other:** Safety shoes

- **Thermal hazards:** No hazard to report

Environmental exposure controls:
Use according to good working practices to avoid pollution into the environment.
9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Physical and chemical properties</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Fine powder contained in a tank</td>
</tr>
<tr>
<td>Odour</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Irrelevant</td>
</tr>
<tr>
<td>pH</td>
<td>4.5-6.0 (0.1% in H2O)</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>&gt;190°C</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>Irrelevant</td>
</tr>
<tr>
<td>Flash point</td>
<td>Irrelevant</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Irrelevant</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Non flammable</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>Irrelevant</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Irrelevant</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Irrelevant</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.65-1.85 g/cm3 (apparent 0.82-0.96 g/cm3)</td>
</tr>
<tr>
<td>Solubility</td>
<td>Not determined</td>
</tr>
<tr>
<td>Water solubility</td>
<td>Partially soluble</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not determined</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Irrelevant</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>190°C</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Irrelevant</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Non-explosive</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

9.2. Other information

COV=0%.

10. STABILITY AND REACTIVITY

10.1. Reactivity

No risk of reactivity.

10.2. Chemical stability

No hazardous reaction when handled and stored according to provisions.

10.3. Possibility of hazardous reactions

When it reaches temperatures above 190°C decomposes dispersing ammonia. Contamination with incompatible materials.

10.4. Conditions to avoid

Shock or permanent deformation.
Keep at temperature ranging from -30°C to + 60°C.
Proximity to sources of heat or fire.
Contamination with incompatible materials.
Heating content. When heated at 190°C decomposes to produce gas.
Welding works or heating in the devices or systems that may contain product residues.

10.5. Incompatible materials

Alkali, strong acids, copper and copper alloys.
Strong oxidizers (chlorates, nitrates and nitrites) and bases.

10.6. Hazardous decomposition products

Produce ammonia when it reacts with strong bases. See Sections 2 and 9. When strongly heated it decomposes releasing toxic
According to Dir.CEE N.453/2010 (REACH)

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

ATE(mix) oral = 0,0 mg/kg
ATE(mix) dermal = 0,0 mg/kg
ATE(mix) inhal = 0,0 mg/l/4 h

<table>
<thead>
<tr>
<th>(a) acute toxicity</th>
<th>AMMONIUM PHOSPHATE MONOBASIC: NOAEL = 250mg/bw kg/day</th>
</tr>
</thead>
<tbody>
<tr>
<td>(b) skin corrosion/irritation</td>
<td>Not applicable</td>
</tr>
<tr>
<td>(c) serious eye damage/irritation</td>
<td>Not applicable</td>
</tr>
<tr>
<td>(d) respiratory or skin sensitization</td>
<td>Not applicable</td>
</tr>
<tr>
<td>(e) germ cell mutagenicity</td>
<td>Not applicable</td>
</tr>
<tr>
<td>(f) carcinogenicity</td>
<td>AMMONIUM SULFATE: NOAEL= 284 mg/bw kg/day</td>
</tr>
<tr>
<td>(g) tossicità riproduttiva</td>
<td>AMMONIUM SULFATE: NOAEL= 1500 mg/bw kg/day</td>
</tr>
<tr>
<td>(h) specific target organ toxicity (STOT) single exposure</td>
<td>Not applicable</td>
</tr>
<tr>
<td>(i) specific target organ toxicity (STOT) repeated exposure</td>
<td>Not applicable</td>
</tr>
<tr>
<td>(j) aspiration hazard</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

Related to contained substances:

**AMMONIUM SULFATE**

<table>
<thead>
<tr>
<th>LD50</th>
<th>2000mg/kg bw</th>
<th>Oral (rat)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50</td>
<td>&gt;2000 mg/kg bw</td>
<td>Dermal (rat or rabbit)</td>
</tr>
<tr>
<td>CL50</td>
<td>&gt;1000 mg/L/4h powder</td>
<td>Inhalation (rat)</td>
</tr>
</tbody>
</table>

12. ECOLOGICAL INFORMATION

12.1. Toxicity

Related to contained substances:

**AMMONIUM SULFATE**

Acute toxic:
LC50 = 53mg/L (fish, Oncorhynchus mykiss, 96h)
EC50 = 168,8 mg/L (Invertebrate, Daphnia magna, 18d)
EC50 = 2700mg/L (algae, Chlorella vulgaris, 96h)

**AMMONIUM PHOSPHATE MONOBASIC**

Acute toxicity:
LC50>85,9mg/L (fish, Oncorhynchus mykiss, 96h)
LC50=1825-1970mg/L (croataceous, Daphnia carinata,72h)
NOEC>97,1mg/L (algae, Selenastrum capricornutum, 72h)

Use according to good working practices to avoid pollution into the environment.

12.2. Persistence and degradability

Related to contained substances:

**AMMONIUM PHOSPHATE MONOBASIC**

Readily degradable

12.3. Bio accumulative potential

No data available
12.4. Mobility in soil
No data available

12.5. Results of PBT and vPvB assessment
The substance/mixture NOT contains substances PBT/vPvB according to Regulation (EC) No 1907/2006, Annex XIII

12.6. Other adverse effects
The soil bacteria convert ammonia to nitrate, which can be absorbed by plants or denitrified by microorganisms in nitrogen and nitrous oxide. In water, the ions of ammonium and phosphate can cause eutrophication, which increased growth of algae. The decomposition of the algae can reduce the oxygen which, if significant, could result in asphyxiation of other aquatic organisms.

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods
The waste must be disposed of in compliance with the regulations in force delivering empty containers for final disposal and equipped to safely handle pressurized containers containing flammable liquids and gas waste. The empty container heated to temperatures exceeding 70°C can burst. Recover if possible. Operate according to local or national regulations

14. TRANSPORT INFORMATION

14.1. UN number
Not applicable

14.2. UN proper shipping name
Not applicable

14.3. Transport hazard class(es)
Not applicable

14.4. Packing group
Not applicable

14.5. Environmental hazards
Not applicable

14.6. Special precautions for user
Not applicable

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Not applicable.

15. REGULATORY INFORMATION

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

15.2. Chemical safety assessment
The supplier did not have made a chemical safety assessment

16. OTHER INFORMATION

16.1. Other information
Description of the sentences of risk set out in paragraph 3
None
Description of the hazard statements exposed to point 3
None.
Classification based on data of all components of the mixture
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According to Dir.CEE N.453/2010 (REACH)

Regulatory information:
Dir 67/548 e s.a.a.
Direttiva 1999/45/CE e s.a.a.
Dir 2001/60/CE
Reg 1907/2006 CE e s.a.a.
Reg 1272/2008 CE e s.a.a.
Reg 453/2010 CE

Do not use the product for purposes other than those listed in the Specifications.

NOTICE TO USERS
The information contained herein is based on the knowledge available at the date of completion relating to requirements for safety, health, environmental protection and proper use of the product. The user must be aware of the possible risks associated with use of the product other than that for which the product is shipped. The card is not in any way excuse the user from knowing and applying all the regulations governing its activities. The set of regulations mentioned is simply to help the user to fulfill its obligations regarding the use of hazardous products. This does not exonerate the user from ensuring that legal obligations other than those mentioned, regolamentanti possession and use of the product is solely responsible.

*** This sheet replaces any previous edition.