

ABE Powder Fire Extinguisher

Amerex Fire Pacific Pty Ltd

Chemwatch: 4887-11

Version No: 2.1.1.1

Safety Data Sheet according to WHS and ADG requirements

Chemwatch Hazard Alert Code: **2**

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Initial Date: **Not Available**

L.GHS.AUS.EN

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

Product Identifier

| | |
|-------------------------------|---|
| Product name | ABE Powder Fire Extinguisher |
| Synonyms | Not Available |
| Proper shipping name | FIRE EXTINGUISHERS with compressed or liquefied gas |
| Other means of identification | Not Available |

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

| | |
|--------------------------|---------------------------|
| Relevant identified uses | Fire extinguishing agent. |
|--------------------------|---------------------------|

Details of the supplier of the safety data sheet

| | |
|-------------------------|---|
| Registered company name | Amerex Fire Pacific Pty Ltd |
| Address | 2A Staple Street, Seventeen Mile Rocks QLD 4073 Australia |
| Telephone | +61 7 3715 5644 |
| Fax | +61 7 3715 8450 |
| Website | Not Available |
| Email | Not Available |

Emergency telephone number

| | |
|-----------------------------------|-----------------------------------|
| Association / Organisation | Not Available |
| Emergency telephone numbers | +61 7 3715 5644 (Mon-Fri 9am-5pm) |
| Other emergency telephone numbers | Not Available |

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

HAZARDOUS CHEMICAL. DANGEROUS GOODS. According to the WHS Regulations and the ADG Code.

CHEMWATCH HAZARD RATINGS

| | Min | Max |
|--------------|-----|-----|
| Flammability | 0 | |
| Toxicity | 1 | |
| Body Contact | 2 | |
| Reactivity | 1 | |
| Chronic | 0 | |

0 = Minimum
1 = Low
2 = Moderate
3 = High
4 = Extreme

| | |
|--------------------|---|
| Poisons Schedule | Not Applicable |
| Classification [1] | Skin Corrosion/Irritation Category 2, Eye Irritation Category 2A, Specific target organ toxicity - single exposure Category 3 (respiratory tract irritation), Chronic Aquatic Hazard Category 4 |
| Legend: | 1. Classified by Chemwatch; 2. Classification drawn from HSIS ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI |

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Label elements

| | |
|--------------------|---|
| GHS label elements |  |
| SIGNAL WORD | WARNING |

Hazard statement(s)

| | |
|--------|---|
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H335 | May cause respiratory irritation. |
| H413 | May cause long lasting harmful effects to aquatic life. |
| AUH044 | Risk of explosion if heated under confinement |

Precautionary statement(s) Prevention

| | |
|------|--|
| P271 | Use only outdoors or in a well-ventilated area. |
| P261 | Avoid breathing dust/fumes. |
| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |

Precautionary statement(s) Response

| | |
|----------------|--|
| P362 | Take off contaminated clothing and wash before reuse. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P312 | Call a POISON CENTER or doctor/physician if you feel unwell. |
| P337+P313 | If eye irritation persists: Get medical advice/attention. |
| P302+P352 | IF ON SKIN: Wash with plenty of soap and water. |
| P304+P340 | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. |
| P332+P313 | If skin irritation occurs: Get medical advice/attention. |

Precautionary statement(s) Storage

| | |
|-----------|--|
| P405 | Store locked up. |
| P403+P233 | Store in a well-ventilated place. Keep container tightly closed. |

Precautionary statement(s) Disposal

| | |
|------|---|
| P501 | Dispose of contents/container in accordance with local regulations. |
|------|---|

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

| CAS No | %[weight] | Name |
|---------------|-----------|--------------------------------------|
| 7722-76-1 | >60 | <u>ammonium phosphate, monobasic</u> |
| Not Available | NotSpec. | propellant as, |
| 7727-37-9. | NotSpec. | <u>nitrogen</u> |

SECTION 4 FIRST AID MEASURES

Description of first aid measures

| | |
|--------------|--|
| Eye Contact | ► Generally not applicable. |
| Skin Contact | If skin contact occurs: ► Immediately remove all contaminated clothing, including footwear. |

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|------------|--|
| | <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"> ▶ Following exposure to gas, remove the patient from the gas source or contaminated area. ▶ NOTE: Personal Protective Equipment (PPE), including positive pressure self-contained breathing apparatus may be required to assure the safety of the rescuer. ▶ Prostheses such as false teeth, which may block the airway, should be removed, where possible, prior to initiating first aid procedures. ▶ If the patient is not breathing spontaneously, administer rescue breathing. ▶ If the patient does not have a pulse, administer CPR. ▶ If medical oxygen and appropriately trained personnel are available, administer 100% oxygen. ▶ Summon an emergency ambulance. If an ambulance is not available, contact a physician, hospital, or Poison Control Centre for further instruction. ▶ Keep the patient warm, comfortable and at rest while awaiting medical care. ▶ MONITOR THE BREATHING AND PULSE, CONTINUOUSLY. ▶ Administer rescue breathing (preferably with a demand-valve resuscitator, bag-valve mask-device, or pocket mask as trained) or CPR if necessary. |
| Ingestion | <ul style="list-style-type: none"> ▶ Not considered a normal route of entry. |

Indication of any immediate medical attention and special treatment needed

For gas exposures:

BASIC TREATMENT

- ▶ Establish a patent airway with suction where necessary.
- ▶ Watch for signs of respiratory insufficiency and assist ventilation as necessary.
- ▶ Administer oxygen by non-rebreather mask at 10 to 15 l/min.
- ▶ Monitor and treat, where necessary, for pulmonary oedema.
- ▶ Monitor and treat, where necessary, for shock.
- ▶ Anticipate seizures.

ADVANCED TREATMENT

- ▶ Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.
- ▶ Positive-pressure ventilation using a bag-valve mask might be of use.
- ▶ Monitor and treat, where necessary, for arrhythmias.
- ▶ Start an IV D5W TKO. If signs of hypovolaemia are present use lactated Ringers solution. Fluid overload might create complications.
- ▶ Drug therapy should be considered for pulmonary oedema.
- ▶ Hypotension with signs of hypovolaemia requires the cautious administration of fluids. Fluid overload might create complications.
- ▶ Treat seizures with diazepam.
- ▶ Proparacaine hydrochloride should be used to assist eye irrigation.

BRONSTEIN, A.C. and CURRANCE, P.L.

EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

Non flammable.

Special hazards arising from the substrate or mixture

| | |
|----------------------|--|
| Fire Incompatibility | <ul style="list-style-type: none"> ▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result |
|----------------------|--|

Advice for firefighters

| | |
|-----------------------|---|
| Fire Fighting | <p>If safe to do so, remove containers from path of fire.</p> <p>Cool fire exposed containers with water spray from a protected location.</p> |
| Fire/Explosion Hazard | <ul style="list-style-type: none"> ▶ Containers may explode when heated - Ruptured cylinders may rocket ▶ Fire exposed containers may vent contents through pressure relief devices. ▶ High concentrations of gas may cause asphyxiation without warning. ▶ May decompose explosively when heated or involved in fire. ▶ Contact with gas may cause burns, severe injury and/ or frostbite. <p>Decomposition may produce toxic fumes of: carbon monoxide (CO) carbon dioxide (CO₂) nitrogen oxides (NO_x) phosphorus oxides (PO_x) other pyrolysis products typical of burning organic material</p> |

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

| | |
|--------------|--|
| Minor Spills | <ul style="list-style-type: none"> ▶ Avoid breathing vapour and any contact with liquid or gas. Protective equipment including respirator should be used. |
|--------------|--|

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Major Spills

- ▶ **DO NOT** enter confined spaces where gas may have accumulated.
- ▶ Increase ventilation.
- ▶ Clear area of personnel.
- ▶ Stop leak only if safe to do so.
- ▶ Remove leaking cylinders to safe place. Release pressure under safe controlled conditions by opening valve.
- ▶ Do not exert excessive pressure on the valve; do not attempt to operate a damaged valve
- ▶ Orientate cylinder so that the leak is gas, not liquid, to minimise rate of leakage
- ▶ Keep area clear of personnel until gas has dispersed.
- ▶ Clean up all spills immediately.
- ▶ Wear protective clothing, safety glasses, dust mask, gloves.
- ▶ Secure load if safe to do so. Bundle/collect recoverable product.
- ▶ Use dry clean up procedures and avoid generating dust.
- ▶ Vacuum up (consider explosion-proof machines designed to be grounded during storage and use).
- ▶ Water may be used to prevent dusting.
- ▶ Collect remaining material in containers with covers for disposal.
- ▶ Flush spill area with water.

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

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling

- ▶ Consider use in closed pressurised systems, fitted with temperature, pressure and safety relief valves which are vented for safe dispersal.
- ▶ The tubing network design connecting gas cylinders to the delivery system should include appropriate pressure indicators and vacuum or suction lines.
- ▶ Fully-welded types of pressure gauges, where the bourdon tube sensing element is welded to the gauge body, are recommended.
- ▶ Before connecting gas cylinders, ensure manifold is mechanically secure and does not contain another gas. Before disconnecting gas cylinder, isolate supply line segment proximal to cylinder, remove trapped gas in supply line with aid of vacuum pump
- ▶ When connecting or replacing cylinders take care to avoid airborne particulates violently ejected when system pressurises.
- ▶ Consider the use of doubly-contained piping; diaphragm or bellows sealed, soft seat valves; backflow prevention devices; flash arrestors; and flow monitoring or limiting devices. Gas cabinets, with appropriate exhaust treatment, are recommended, as is automatic monitoring of the secondary enclosures and work areas for release.
- ▶ Use a pressure reducing regulator when connecting cylinder to lower pressure (<100 psig) piping or systems
- ▶ Use a check valve or trap in the discharge line to prevent hazardous back-flow into the cylinder
- ▶ Check regularly for spills or leaks. Keep valves tightly closed but do not apply extra leverage to hand wheels or cylinder keys.
- ▶ Open valve slowly. If valve is resistant to opening then contact your supervisor
- ▶ Valve protection caps must remain in place unless container is secured with valve outlet piped to use point.
- ▶ Never insert a pointed object (e.g. hooks) into cylinder cap openings as a means to open cap or move cylinder. Such action can inadvertently turn the valve and gas a gas leak. Use an adjustable strap instead of wrench to free an over-tight or rusted cap.
- ▶ A bubble of gas may buildup behind the outlet dust cap during transportation, after prolonged storage, due to defective cylinder valve or if a dust cap is inserted without adequate evacuation of gas from the line. When loosening dust cap, preferably stand cylinder in a suitable enclosure and take cap off slowly. Never face the dust cap directly when removing it; point cap away from any personnel or any object that may pose a hazard, under negative pressure (relative to atmospheric gas)
- ▶ Do NOT drag, slide or roll cylinders - use a suitable hand truck for cylinder movement
- ▶ Test for leakage with brush and detergent - **NEVER** use a naked flame.
- ▶ **Do NOT** heat cylinder by any means to increase the discharge rate of product from cylinder.
- ▶ Leaking gland nuts may be tightened if necessary.
- ▶ If a cylinder valve will not close completely, remove the cylinder to a well ventilated location (e.g. outside) and, when empty, tag as FAULTY and return to supplier.
- ▶ Obtain a work permit before attempting any repairs.
- ▶ **DO NOT** attempt repair work on lines, vessels under pressure.
- ▶ Atmospheres must be tested and O.K. before work resumes after leakage.
- ▶ **DO NOT** transfer gas from one cylinder to another.

Other information

- ▶ Cylinders should be stored in a purpose-built compound with good ventilation, preferably in the open.
- ▶ Such compounds should be sited and built in accordance with statutory requirements.
- ▶ The storage compound should be kept clear and access restricted to authorised personnel only.
- ▶ Cylinders stored in the open should be protected against rust and extremes of weather.
- ▶ Cylinders in storage should be properly secured to prevent toppling or rolling.
- ▶ Cylinder valves should be closed when not in use.
- ▶ Where cylinders are fitted with valve protection this should be in place and properly secured.

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- ▶ Gas cylinders should be segregated according to the requirements of the Dangerous Goods Act.
- ▶ Preferably store full and empty cylinders separately.
- ▶ Check storage areas for hazardous concentrations of gases prior to entry.
- ▶ Full cylinders should be arranged so that the oldest stock is used first.
- ▶ Cylinders in storage should be checked periodically for general condition and leakage.
- ▶ Protect cylinders against physical damage. Move and store cylinders correctly as instructed for their manual handling.

NOTE: A 'G' size cylinder is usually too heavy for an inexperienced operator to raise or lower.

Conditions for safe storage, including any incompatibilities

| | |
|--------------------------------|--|
| Suitable container | <ul style="list-style-type: none"> ▶ Glass container is suitable for laboratory quantities ▶ Cylinder: ▶ Ensure the use of equipment rated for cylinder pressure. ▶ Ensure the use of compatible materials of construction. ▶ Valve protection cap to be in place until cylinder is secured, connected. ▶ Cylinder must be properly secured either in use or in storage. ▶ Cylinder valve must be closed when not in use or when empty. ▶ Segregate full from empty cylinders. <p>WARNING: Suckback into cylinder may result in rupture. Use back-flow preventive device in piping.</p> |
| Storage incompatibility | <ul style="list-style-type: none"> ▶ Avoid strong bases. ▶ Compressed gases may contain a large amount of kinetic energy over and above that potentially available from the energy of reaction produced by the gas in chemical reaction with other substances |

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

| Source | Ingredient | Material name | TWA | STEL | Peak | Notes |
|------------------------------|------------|---------------|---------------|---------------|---------------|------------|
| Australia Exposure Standards | nitrogen | Nitrogen | Not Available | Not Available | Not Available | Asphyxiant |

EMERGENCY LIMITS

| Ingredient | Material name | TEEL-1 | TEEL-2 | TEEL-3 |
|-------------------------------|---|--------------|------------|------------|
| ammonium phosphate, monobasic | Ammonium dihydrogen phosphate; (Monoammonium phosphate) | 12 mg/m3 | 130 mg/m3 | 790 mg/m3 |
| nitrogen | Nitrogen | 7.96E+05 ppm | 832000 ppm | 869000 ppm |

| Ingredient | Original IDLH | Revised IDLH |
|-------------------------------|---------------|---------------|
| ammonium phosphate, monobasic | Not Available | Not Available |
| propellant as, | Not Available | Not Available |
| nitrogen | Not Available | Not Available |

MATERIAL DATA

Exposure controls

| | |
|---|---|
| Appropriate engineering controls | <p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</p> <p>The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.</p> <p>Employers may need to use multiple types of controls to prevent employee overexposure.</p> <ul style="list-style-type: none"> ▶ Areas where cylinders are stored require good ventilation and, if enclosed, need discrete/controlled exhaust ventilation. ▶ Secondary containment and exhaust gas treatment may be required by certain jurisdictions. ▶ Local exhaust ventilation may be required in work areas. ▶ Consideration should be given to the use of diaphragm or bellows-sealed, soft-seat valves; backflow prevention devices and flow-monitoring or limiting devices. ▶ Automated alerting systems with automatic shutdown of gas-flow may be appropriate and may in fact be mandatory in certain jurisdictions. |
|---|---|

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- ▶ Respiratory protection in the form of air-supplied or self-contained breathing equipment must be worn if the oxygen concentration in the workplace air is less than 19%.
 - ▶ Cartridge respirators do NOT give protection and may result in rapid suffocation.
- Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

| | |
|---|----------------------------|
| Type of Contaminant: | Air Speed: |
| gas discharge (active generation into zone of rapid air motion) | 1-2.5 m/s (200-500 f/min.) |

Within each range the appropriate value depends on:

| Lower end of the range | Upper end of the range |
|--|----------------------------------|
| 1: Room air currents minimal or favourable to capture | 1: Disturbing room air currents |
| 2: Contaminants of low toxicity or of nuisance value only. | 2: Contaminants of high toxicity |
| 3: Intermittent, low production. | 3: High production, heavy use |
| 4: Large hood or large air mass in motion | 4: Small hood-local control only |

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2.5 m/s (200-500 f/min.) for extraction of gases discharged 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

| | |
|--------------------------------|---|
| Personal protection |  |
| Eye and face protection | <ul style="list-style-type: none"> ▶ Safety glasses with side shields. ▶ Chemical goggles. ▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent] |
| Skin protection | See Hand protection below |
| Hands/feet protection | <ul style="list-style-type: none"> ▶ When handling sealed and suitably insulated cylinders wear cloth or leather gloves. <p>Wear chemical protective gloves, e.g. PVC. Wear safety footwear.</p> |
| Body protection | See Other protection below |
| Other protection | <ul style="list-style-type: none"> ▶ Protective overalls, closely fitted at neck and wrist. ▶ Eye-wash unit. ▶ Ensure availability of lifeline in confined spaces. ▶ Staff should be trained in all aspects of rescue work. ▶ Rescue gear: Two sets of SCBA breathing apparatus Rescue Harness, lines etc. |
| Thermal hazards | Not Available |

Respiratory protection

- ▶ 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.
- ▶ Positive pressure, full face, air-supplied breathing apparatus should be used for work in enclosed spaces if a leak is suspected or the primary containment is to be opened (e.g. for a cylinder change)
- ▶ Air-supplied breathing apparatus is required where release of gas from primary containment is either suspected or demonstrated.

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SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

| | | | |
|---|--|--|----------------|
| Appearance | Pale blue powder with a weak odour; slightly soluble in water. | | |
| Physical state | Manufactured | Relative density (Water = 1) | ~0.85 |
| Odour | Not Available | Partition coefficient n-octanol / water | Not Available |
| Odour threshold | Not Available | Auto-ignition temperature (°C) | Not Applicable |
| pH (as supplied) | Not Applicable | Decomposition temperature | Not Available |
| Melting point / freezing point (°C) | >300 | Viscosity (cSt) | Not Applicable |
| Initial boiling point and boiling range (°C) | Not Applicable | Molecular weight (g/mol) | Not Applicable |
| Flash point (°C) | Not Applicable | Taste | Not Available |
| Evaporation rate | Not Available | Explosive properties | Not Available |
| Flammability | Not Applicable | Oxidising properties | Not Available |
| Upper Explosive Limit (%) | Not Applicable | Surface Tension (dyn/cm or mN/m) | Not Applicable |
| Lower Explosive Limit (%) | Not Applicable | Volatile Component (%vol) | Not Applicable |
| Vapour pressure (kPa) | Negligible | Gas group | Not Available |
| Solubility in water (g/L) | Partly Miscible | pH as a solution (1%) | 4.6-4.7 |
| Vapour density (Air = 1) | Not Applicable | VOC g/L | Not Available |

SECTION 10 STABILITY AND REACTIVITY

| | |
|---|--|
| Reactivity | See section 7 |
| Chemical stability | <ul style="list-style-type: none"> ▶ Unstable in the presence of incompatible materials. ▶ Product is considered stable. ▶ Hazardous polymerisation will not occur. |
| Possibility of hazardous reactions | See section 7 |
| Conditions to avoid | See section 7 |
| Incompatible materials | See section 7 |
| Hazardous decomposition products | See section 5 |

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

| | |
|----------------|---|
| Inhaled | <p>Evidence shows, or practical experience predicts, that the material produces irritation of the respiratory system, in a substantial number of individuals, following inhalation. In contrast to most organs, the lung is able to respond to a chemical insult by first removing or neutralising the irritant and then repairing the damage. The repair process, which initially evolved to protect mammalian lungs from foreign matter and antigens, may however, produce further lung damage resulting in the impairment of gas exchange, the primary function of the lungs. Respiratory tract irritation often results in an inflammatory response involving the recruitment and activation of many cell types, mainly derived from the vascular system.</p> <p>Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.</p> <p>Common, generalised symptoms associated with non-toxic gas inhalation include :</p> <ul style="list-style-type: none"> ▶ central nervous system effects such as headache, confusion, dizziness, progressive stupor, coma and seizures; ▶ respiratory system complications may include tachypnoea and dyspnoea; ▶ cardiovascular effects may include circulatory collapse and arrhythmias; ▶ gastrointestinal effects may also be present and may include mucous membrane irritation and nausea and vomiting. |
|----------------|---|




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| | | |
|--------------------------------------|--|------------------------------------|
| Ingestion | Considered an unlikely route of entry in commercial/industrial environments | |
| Skin Contact | <p>Evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period. Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic). The dermatitis is often characterised by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesiculation), scaling and thickening of the epidermis. At the microscopic level there may be intercellular oedema of the spongy layer of the skin (spongiosis) and intracellular oedema of the epidermis.</p> <p>The material may accentuate any pre-existing dermatitis condition</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</p> | |
| Eye | <p>Evidence exists, or practical experience predicts, that the material may cause eye irritation in a substantial number of individuals and/or may produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals.</p> <p>Repeated or prolonged eye contact may cause inflammation characterised by temporary redness (similar to windburn) of the conjunctiva (conjunctivitis); temporary impairment of vision and/or other transient eye damage/ulceration may occur.</p> <p>Direct contact with the eye may not cause irritation because of the extreme volatility of the gas; however concentrated atmospheres may produce irritation after brief exposures..</p> | |
| Chronic | <p>Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems.</p> <p>Principal route of occupational exposure to the gas is by inhalation.</p> <p>Dogs given daily doses of sodium phosphate dibasic for 9-22 weeks showed calcium deposits in the kidneys (nephrocalcinosis) with disseminated atrophy of the proximal tubule. Animals fed on sodium phosphate dibasic and potassium dihydrogen phosphate, in both short- and long-term studies, showed increased bone porosity; hyperparathyroidism and soft tissue calcification were also evident.</p> | |
| ABE Powder Fire Extinguisher | TOXICITY Not Available | IRRITATION Not Available |
| ammonium phosphate, monobasic | TOXICITY dermal (rat) LD50: >5000 mg/kg ^[1] Oral (rat) LD50: >1000 mg/kg ^[1] | IRRITATION Not Available |
| nitrogen | TOXICITY Not Available | IRRITATION 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 | |

| | | |
|--------------------------------------|---|--|
| AMMONIUM PHOSPHATE, MONOBASIC | <p>Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production.</p> <p>No significant acute toxicological data identified in literature search.</p> | |
| NITROGEN | No significant acute toxicological data identified in literature search. | |

| | | | |
|--|---|---------------------------------|---|
| Acute Toxicity | ☐ | Carcinogenicity | ☐ |
| Skin Irritation/Corrosion | ✓ | Reproductivity | ☐ |
| Serious Eye Damage/Irritation | ✓ | STOT - Single Exposure | ✓ |
| Respiratory or Skin sensitisation | ☐ | STOT - Repeated Exposure | ☐ |
| Mutagenicity | ☐ | Aspiration Hazard | ☐ |

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Legend:  - Data available but does not fit the criteria for classification
 - Data required to make classification available
 - Data Not Available to make classification

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

| Ingredient | Endpoint | Test Duration (hr) | Species | Value | Source |
|-------------------------------|----------|--------------------|-------------------------------|-----------|--------|
| ammonium phosphate, monobasic | LC50 | 96 | Fish | >85.9mg/L | 2 |
| ammonium phosphate, monobasic | EC50 | 72 | Algae or other aquatic plants | >97.1mg/L | 2 |
| ammonium phosphate, monobasic | NOEC | 72 | Algae or other aquatic plants | 3.57mg/L | 2 |

Legend:

Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 - 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

May cause long-term adverse effects in the aquatic environment.

DO NOT discharge into sewer or waterways.

Persistence and degradability

| Ingredient | Persistence: Water/Soil | Persistence: Air |
|-------------------------------|-------------------------|------------------|
| ammonium phosphate, monobasic | HIGH | HIGH |

Bioaccumulative potential

| Ingredient | Bioaccumulation |
|-------------------------------|------------------------|
| ammonium phosphate, monobasic | LOW (LogKOW = -0.7699) |

Mobility in soil

| Ingredient | Mobility |
|-------------------------------|----------------|
| ammonium phosphate, monobasic | HIGH (KOC = 1) |

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

| Product / Packaging disposal | |
|------------------------------|---|
| | <ul style="list-style-type: none"> Evaporate residue at an approved site. Return empty containers to supplier. If containers are marked non-returnable establish means of disposal with manufacturer prior to purchase. Ensure damaged or non-returnable cylinders are gas-free before disposal. |

SECTION 14 TRANSPORT INFORMATION

Labels Required

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

Land transport (ADG)

ABE Powder Fire Extinguisher

| | |
|-------------------------------------|---|
| UN number | 1044 |
| Packing group | Not Applicable |
| UN proper shipping name | FIRE EXTINGUISHERS with compressed or liquefied gas |
| Environmental hazard | Not Applicable |
| Transport hazard class(es) | Class 2.2 Subrisk Not Applicable |
| Special precautions for user | Special provisions 225 Limited quantity 120 ml |

Air transport (ICAO-IATA / DGR)

| | |
|-------------------------------------|--|
| UN number | 1044 |
| Packing group | Not Applicable |
| UN proper shipping name | Fire extinguishers with compressed or liquefied gas |
| Environmental hazard | Not Applicable |
| Transport hazard class(es) | ICAO/IATA Class 2.2 ICAO / IATA Subrisk Not Applicable ERG Code 2L |
| Special precautions for user | Special provisions A19 Cargo Only Packing Instructions 213 Cargo Only Maximum Qty / Pack 150 kg Passenger and Cargo Packing Instructions 213 Passenger and Cargo Maximum Qty / Pack 75 kg Passenger and Cargo Limited Quantity Packing Instructions Forbidden Passenger and Cargo Limited Maximum Qty / Pack Forbidden |

Sea transport (IMDG-Code / GGVSee)

| | |
|-------------------------------------|--|
| UN number | 1044 |
| Packing group | Not Applicable |
| UN proper shipping name | FIRE EXTINGUISHERS with compressed or liquefied gas |
| Environmental hazard | Not Applicable |
| Transport hazard class(es) | IMDG Class 2.2 IMDG Subrisk Not Applicable |
| Special precautions for user | EMS Number F-C, S-V Special provisions 225 Limited Quantities 120 mL |

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

Not Applicable

SECTION 15 REGULATORY INFORMATION

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

AMMONIUM PHOSPHATE, MONOBASIC(7722-76-1) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AICS)

NITROGEN(7727-37-9.) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Exposure Standards

Australia Inventory of Chemical Substances (AICS)

ABE Powder Fire Extinguisher

| National Inventory | Status |
|----------------------------------|--|
| Australia - AICS | Y |
| Canada - DSL | Y |
| Canada - NDSL | N (nitrogen; ammonium phosphate, monobasic) |
| China - IECSC | Y |
| Europe - EINEC / ELINCS / NLP | Y |
| Japan - ENCS | N (nitrogen) |
| Korea - KECI | Y |
| New Zealand - NZIoC | Y |
| Philippines - PICCS | N (nitrogen) |
| USA - TSCA | Y |
| Legend: | <i>Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)</i> |

SECTION 16 OTHER INFORMATION

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.

A list of reference resources used to assist the committee may be found at:

www.chemwatch.net

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.

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
PC—STEL: Permissible Concentration-Short Term Exposure Limit
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists
STEL: Short Term Exposure Limit
TEEL: Temporary Emergency Exposure Limit.
IDLH: Immediately Dangerous to Life or Health Concentrations
OSF: Odour Safety Factor
NOAEL :No Observed Adverse Effect Level
LOAEL: Lowest Observed Adverse Effect Level
TLV: Threshold Limit Value
LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index

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