



Material Safety Data Sheet  
DSPA

Version: 4.0  
Revision date: 03/03/2008

**1. Identification of the substance / preparation and the company**

Product name and code DSPA.  
 Synonym Dry Sprinkler Powder Aerosol.  
 Material uses Extinguishing material for use in a dry sprinkler powder aerosol extinguishing system.

Identification company DSPA B.V.  
 Hulzenweg 1020  
 6534 AN Nijmegen - NL  
 P.O. Box 6572  
 6503 GB Nijmegen  
 Tel: +31 (0) 24 35 22 573  
 Fax: +31 (0) 24 37 87 583  
 Email: [info@dspa.nl](mailto:info@dspa.nl)  
 URL: [www.dspa.nl](http://www.dspa.nl)

Emergency telephone number(24 hour) Tel: +31 (0)30-2748888, only for the doctor.  
 National Poisons Information Centre Utrecht, The Netherlands

**2. Hazards identification**

The preparation is classified according to Directive 1999/45/EC or Directive 67/548/EEC and its amendments.

R22 Harmful if swallowed.  
 R36/37/38 Irritating to eyes, respiratory system and skin.

Store dry. Prevent inhalation.

**3. Composition / Information on ingredients**

Ingredient	% weight	danger	CAS#	EG#	REACH#
Potassium carbonate	>50	Xi;R36/37/38 Xn;R22	584-08-7	209-529-3	-
Ammonium hydrogen carbonate	20-30	Xn;R22	1066-33-7	213-911-5	-
Potassium nitrate	<10	O;R8	7757-79-1	231-818-8	-

Full text of each relevant R phrase can be found in heading 16.

**4. First aid measures**

Eye contact Remove possible contact lenses. Contamination of the eyes must be treated by thorough irrigation with water for 15 minutes, with the eyelids held open. Do not rub or scratch eyes. A doctor (or eye specialist) should be consulted immediately.

Skin contact Remove contaminated clothing. Remove mechanically and wash off with plenty of soap and water.

Swallowing Provided the patient is conscious, wash out and give IMMEDIATELY plenty of water or milk to drink. DO NOT induce patient to vomit. If the patient is vomiting, continue giving water or milk. If symptoms develop, obtain medical attention and this safety data sheet.

If aerosol or vapour is inhaled in high concentrations Take the person out of the dust and into the fresh air, keep him warm, let him rest. Drink water and blow nose to remove particulates from nasal passages. If breathing has stopped, adminis-

	ter artificial respiration and supply oxygen. Seek medical attention.
Further medical treatment	Symptomatic treatment and supportive therapy as indicated.

**5. Fire fighting measures**

Extinguishing media suitable	NONE – THIS IS AN EXTINGUISHING AGENT.
Extinguishing media which must not be used for safety reasons	None.
Special exposure hazards arriving from substance or preparation itself, combustion products, resulting gases	No specific fire dangers. Not classed as flammable and gives no contribution at a fire.
Protection of fire-fighters	Fire - men have to wear self - contained breathing apparatus (with mouth – and nose protection) and complete protective clothing.
Additional information	Surrounding materials may be combustible. May cause slipperiness in contact with water. Combustion products may include: carbon monoxide and carbon dioxide.

**6. Accidental release measures**





Personal precautions	Wear appropriate personal protective equipment including a full suit and boots. Avoided contact with eyes and skin. As an aerosol in case of application of the material, use respiratory protection (FFP-2 mask).
Environmental precautions	Do not discharge into drains or sewers.
Clean up methods	Collect the waste product in suitable drums for disposal. Vacuum cleaning is recommended to minimise dust formation, if not possible, sweep spilled substance into containers. Wash the spillage area clean with plenty of water.

**7. Handling and storage**

Handling:	When handling observe the usual precautionary measures for chemicals. Do not breathe aerosol or dust. Keep a safe distance. If intense aerosol is released from a dry sprinkler powder system, respiratory protection is required.
Storage:	<p>Keep container tightly closed when not in use. Prevent product temperatures above 35 °C and below -50 °C. Store the product dry.</p> <p>Suitable storage material:                      Stainless steel, coated steel, polyethylene or original packaging.</p> <p>Storage material to avoid:                      Aluminium is less suitable.</p> <p>Storage temperature:                              Recommended storage temperature 20 ± 15 °C.</p>
Specific use(s)	Extinguishing material in case of a fire. Only use in combination with the Dry Sprinkler Powder Aerosol Extinguishing System of DSPA.

**8. Exposure controls – Personal protection**

Limits of exposure: No occupational exposure limits are determined for the preparation and/or for the components. As used as extinguishing material, as dense aerosol or dust is formed. For respirable dust the recommended MAC value for a 8 hours exposure (TWA) is 10 mg/m<sup>3</sup>.

Personal protective equipment	Do not eat or drink whilst working with the product.
Respiratory protection	Required at inadequately ventilated workplaces. As respirable dust in case of application of the material as extinguishing material, use respiratory protection (FFP-2 mask EN149: 2001).
 Respiratory protection	
Skin and body	Wear suitable protective clothing (preferable heavy cotton or disposable coverall), gloves of PVC and eye / face protection. Take off immediately all contaminated clothing. Rinse the skin with a lot of water or take a shower.
 Skin and body	
Hands	Wash hands before breaks and at the end of work. Protective gloves of neoprene or butyl rubber should be worn when handling with the product.
 Hands	
Eyes	Chemical safety glasses. Eye – wash.
 Eyes	

**9. Physical and chemical properties**

General information.	
Appearance	Solid, powder.
Colour	White, grey.
Odour	Slight ammonia like.
Important health, safety and environmental information.	
pH(5% solution)	9.8
Boiling point	N.A.
Flash point	None
Explosive properties	The product is not explosive.
Vapour pressure	Not available.
Relative density	2 (water = 1).
Solubility in water	Soluble in water.

**10. Stability and reactivity**

Stability	Stable at normal use.
Conditions to avoid	Avoid water, product is hygroscopic. Avoid high temperatures during normal storage.
Materials to avoid:	Strong oxidisers caustic alkalis (forming ammonia) and acids. Reacts violently with acids, chlorine trifluoride. Reacts with powdered metals. Reacts with water to evolve heat.
Hazardous decomposition products:	Burning may produce ammonia.

**11. Toxicological information**

Acute toxicity from the components:	
Product information	Potassium carbonate, CAS# 584-08-7
LD <sub>50</sub> (oral, rat)	>2.000 mg/kg.
LD <sub>50</sub> (dermal, rabbit)	1,87 mg/kg.
Test skin rabbit	Irritating.
Test eye rabbit	Irritating (Draize test).
Teratogenicity:	In a test with rats the positive control group treatment related effect were observed (like increased number of resorptions, de-

	creased average fetus weight, incomplete ossification, missing sternbrae, incomplete closure of the skull). In a similar test with mice, no effects are observed.
Product information	Ammonium hydrogen carbonate, CAS# 1066-33-7.
LD <sub>50</sub> (oral, rat)	1.576 mg/kg.
Large dose can produce nausea and vomiting.	
Product information	Potassium nitrate, CAS# 7757-79-1.
LD <sub>50</sub> (oral, rat)	3.015 mg/kg.
This health hazard assessment is based on information of the components.	
Effects on the eyes	Causes reddening and swelling of the conjunctiva and pain at high concentrations. It is severely irritating to the eyes and its mucous membranes. It may cause corneal injury. It may cause burns and loss of vision. It may cause permanent damage. The amount of tissue damage depends on the length of contact.
Effects on the skin	Causes severe skin irritation.
Effect on the respiratory organs	This product is respiratory irritant: inhalation at high concentrations of aerosol could lead to harmful effects such as the mucous membranes of respiratory organs. Breathing difficulties can occur due to swelling of the throat.
Ingestion	Burning sensation in the throat and chest. Ingestion of large quantities may cause severe pain in the mouth, severe pain in the throat, severe abdominal pain, diarrhea, rapid drop in blood pressure, collapse. Damage continues to occur in the esophagus and stomach for several weeks after the agent was swallowed. Death may occur as long as a month after the product was swallowed in large quantities.

**12. Ecological information**

Ecotoxicity from the components.	
Product information	Potassium carbonate, CAS# 584-08-7.
No data.	
Product information	Ammonium hydrogen carbonate, CAS# 1066-33-7.
LC <sub>50</sub> (fish, rainbow trout, 96 hrs)	0,16 - 1.1 mg/l.
Product information	Potassium nitrate, CAS# 7757-79-1.
TLm (fish, gambusia affinis, 24 hrs)	421 mg/l.
TLm (fish, lepomis macrochirus, 48 hrs)	3.575 mg/l.
TLm (daphnia magna, crustacea, 24 hrs)	490 mg/l.
Ecotoxicity	Contains ammonium hydrogen carbonate with is harmful for fish. Not dangerous for the ozone layer.
Mobility	Entirely soluble in water.
Persistence / degradability	-
Bioaccumulation	-
WGK	1 (Wassergefährungsklasse or water pollution class, German Water Resources Act., limited water pollutant).

**13. Disposal conditions**

Product waste	Incinerate in a hazardous waste incinerator suitable for the disposal of noxious chemical waste in accordance with the relevant regulation. The generation of waste should be avoided or minimised wherever possible. Waste, even small quantities, should never be poured down watercourses.
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Eural code for waste	06 03 99. WASTES FROM INORGANIC CHEMICAL PROCESSES. Waste salts and their solutions; Wastes not otherwise specified.
Empty containers	Remove any residue adhering to the walls.

**14. Transport information**

Not dangerous cargo.  
Ensure that no dust is created (and wind blown) during transportation.

**15. Regulatory information**

EG regulations



Hazard symbol

EU labelling classification

Xn Harmful.

R – (risk) phrases

R22 Harmful if swallowed.  
R36/37/38 Irritating to eyes, respiratory system and skin.

S – (safety) phrases

S2 Keep out of the reach of children.  
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S37/39 Wear suitable gloves and eye/face protection.

WGK (German legislation)

1 (Wassergefährdungsklasse or water pollution class).

**16. Other information**

List of relevant R - phrases referred to under headings 2 and 3

R8 - Contact with combustible material may cause fire.  
R22 - Harmful if swallowed.  
R36/37/38 - Irritating to eyes, respiratory system and skin.

History:

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Information source

- IUCLID dataset substance ID: 584-08-7, date 18.02.2000;  
- IUCLID dataset substance ID: 1066-33-7, date 18.02.2000;  
- IUCLID dataset substance ID: 7757-79-1, date 19.02.2000.

DSPA is a trademark of DSPA.nl.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the product's properties. In all cases, it is the responsibility of the user to determine the applicability of such information and recommendations and the suitability of any products for its own particular purpose.

Safety data sheet according regulation (EC) No 1907/2006 of the European parliament and of the council from 18 December 2006 concerning the registration, evaluation, authorisation and restriction of chemicals (REACH).

Annex

From the raw materials in this recipe, at the moment of drafting this safety data sheet, no chemical safety reports according to regulation (EC) no. 1907/2006 has been registered.