

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

**1.1. Product identifier**

Product form : Mixture  
Product name. : KARMA  
Product code : AA 154 C1269  
Type of formulation : Water soluble powder (SP)  
Active Ingredient : Potassium hydrogen carbonate.

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

**1.2.1. Relevant identified uses**

Main use category : Plant protection product for professional use. Agriculture.  
Use of the substance/mixture : Fungicide.

**1.2.2. Uses advised against**

No additional information available

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

Supplier:

Agronaturalis Ltd,  
Suit B, Crown House, 2  
Southampton Road,  
Ringwood, Hampshire  
BH241HY,  
United Kingdom.

Distributor:

CERTIS UK  
  
Suite 5, 3 Riverside  
Granta Park  
Great Abington  
Cambridgeshire CB21 6AD  
United Kingdom  
Tel: +44 (0)845 373 0305  
Fax: +44 (0)1223 891210  
Email: [certis@certiseurope.co.uk](mailto:certis@certiseurope.co.uk)  
Website: [www.certiseurope.co.uk](http://www.certiseurope.co.uk)

**1.4. Emergency telephone number**

Emergency number : Certis Carechem24 multilingual 24 hours emergency number: +44 (0) 870 190 6777.  
For advice on medical emergencies, fires, spillages or chemical hazards only –phone: 0870 190 6777.  
For further advice for medical professionals - The National Poisons Information Service:  
Tel: 0870 600 6266 (UK only) or Dublin Tel: 0035 3 137 99 64/379966.  
For further advice for veterinary surgeons: 020 7635 9195.

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified.

### 2.2. Label elements

#### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Precautionary statements (CLP) : P260 - Do not breathe dust.  
 P262 - Do not get in eyes, on skin, or on clothing.  
 P280 - Wear protective gloves, protective clothing.  
 P501 - Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.

EUH phrases : EUH401 - To avoid risks to human health and the environment, comply with the instructions for use

### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable.

### 3.2. Mixture

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Potassium hydrogen carbonate.	(n° CAS) 298-14-6	85	Not classified.
Sodium lauryl sulphate	(CAS No) 151-21-3 (EC no) 205-788-1	<15	Flam. Sol. 1, H228 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335
Ducusate sodium	(CAS No) 577-11-7 (EC index no) 209-406-4	< 15	Skin Irrit. 2, H315 Eye Dam. 1, H318

Full text of H- and EUH-phrases: see section 16.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general : In the event of any complaints or symptoms, avoid further exposure.

First-aid measures after inhalation : IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist call a doctor.

First-aid measures after skin contact : IF ON SKIN: Wash with plenty of soap and water. Remove contaminated clothing and shoes.  
 If skin irritation or rash occurs: Get medical advice/attention.

First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Consult an eye specialist.

First-aid measures after ingestion : IF SWALLOWED: Immediately call a POISON CENTER or doctor. Never give anything by mouth to an unconscious person.

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

Symptoms/injuries after skin contact : Slight irritation is possible on prolonged, repeated or occluded contact.

Symptoms/injuries after eye contact : Moderately irritating but effects are reversible and minimized with washing.

Symptoms/injuries after ingestion : Ingestion of large amounts may cause abdominal discomfort and injury.

Symptoms/injuries after inhalation : Inhalation of dusts may cause irritation to the nose, throat and lungs.

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

Treat symptomatically.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media : Water spray  
Dry chemical powder  
Alcohol resistant foam  
Carbon dioxide (CO<sub>2</sub>).

Unsuitable extinguishing media : Jet of water.

#### 5.2. Special hazards arising from the substance or mixture

Fire hazard : Combustion or thermal decomposition may generate toxic vapours: chlorine compounds, nitrogen oxides, carbon monoxide, hydrocarbons.

#### 5.3. Advice for firefighters

Firefighting instructions : Exercise caution when fighting any chemical fire.  
Fight fire from safe distance and protected location.  
Do not breathe fumes  
Cool closed containers exposed to fire with water spray  
If possible, take the containers out of dangerous zone.  
Contain fire-fighting water with dikes or absorbents to prevent migration and entry into sewers or streams.

Protection during firefighting : Wear suitable protective clothing, gloves, eye/face protection and respiratory protection  
Wear a self-contained breathing apparatus.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

Protective equipment : Wear suitable protective clothing, gloves and eye or face protection.

Emergency procedures : Evacuate area.  
Ensure adequate ventilation.  
Avoid direct contact with the substance.  
Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

## 6.2. Environmental precautions

Prevent entry to sewers and public waters.

Notify the authorities if product enters sewers or public waters.

## 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Clean up any spills as soon as possible

Collect spilled material with shovels, buckets and place in closed containers and label properly.

Remove as chemical waste, according to national or local legislation.

In the event of major spillage: contact an expert.

## 6.4. Reference to other sections

No additional information available

# SECTION 7: Handling and storage

## 7.1. Precautions for safe handling

Precautions for safe handling : Read label before use.

Avoid contact with eyes, skin, nose and mouth.

Wear suitable protective clothing, gloves and eye/face protection.

Opened containers must be carefully closed and kept upright to avoid leakage.

Hygiene measures : Always wash your hands immediately after handling this product, and once again before leaving the workplace.

Contaminated work clothing should not be allowed out of the workplace.

Do not eat, drink or smoke when using this product.

Wash contaminated clothing before reuse.

## 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Provide adequate ventilation.

Storage conditions : Prevent unauthorised access.

Keep locked up and out of the reach of children.

Keep in original containers, tightly closed.

Keep away from food, drink and animal feedingstuffs.

Protect against frost.

Keep away from heat and direct sunlight.

Incompatible materials : Acids. Reacts with acids to yield carbon dioxide gas which can accumulate in confined spaces. Do not enter confined spaces until they have been well ventilated and determined to be safe.

Highly hygroscopic, may crystallise during storage. To control the effect of humidity, store in a dry place, avoid storage in the ground.

## 7.3. Specific end use(s)

Fungicide for agricultural use. Refer to the label.

# SECTION 8: Exposure controls/personal protection

## 8.1. Control parameters

<b>KARMA</b>	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	4060 mg/kg bodyweight/day
Long-term - local effects, inhalation	285 mg/m <sup>3</sup>
DNEL/DMEL (General population)	
Long-term - systemic effects, oral	24 mg/kg bodyweight/day
Long-term - systemic effects, dermal	2440 mg/kg bodyweight/day
Long-term - local effects, inhalation	85 mg/m <sup>3</sup>
PNEC (Water)	
PNEC aqua (freshwater)	0.137 mg/l
PNEC aqua (marine water)	0.0137 mg/l
PNEC aqua (intermittent, freshwater)	0.055 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	4.82 mg/kg dwt
PNEC sediment (marine water)	0.482 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	1084 mg/l

## 8.2. Exposure controls

Appropriate engineering controls	: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
Hand protection	: Wear impervious gloves.
Skin and body protection	: Protective clothing with long sleeves.
Hygiene measures	: Remove and wash contaminated clothing before re-use. Do not eat, drink or smoke while handling the product. Clean gloves with soap and water before removing. Wash hands and face with soap and water before eating, drinking smoking and immediately after handling product. Clean equipment, premises and work clothes regularly. Work clothing should remain on the work area and stored separately from street clothes.
Environmental exposure controls	: Discharge into the environment must be avoided. Do not contaminate surface and groundwater.

## SECTION 9: Physical and chemical properties

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

Physical state	: Solid
Appearance	: Powder.
Colour	: White.
Odour	: Odourless.
Odour threshold	: No data available
pH	: 8.33
pH solution	: 1 %
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available

Flash point	: No data available
Self ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 0.7 g/ml
Solubility	: Water: 332 g/l (20 °C - Potassium hydrogen carbonate)
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No explosive properties.
Oxidising properties	: No data available
Explosive limits	: No data available

**9.2. Other information**

No additional information available

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

The product is stable at normal handling and storage conditions.

**10.2. Chemical stability**

The product is stable at normal handling and storage conditions.

**10.3. Possibility of hazardous reactions**

Hazardous polymerization does not occur.

Is not explosive and does not exhibit oxidant properties.

**10.4. Conditions to avoid**

Exposure to prolonged high humidity may cause product to crystallize.

**10.5. Incompatible materials**

Reacts with acids to yield carbon dioxide.

**10.6. Hazardous decomposition products**

Combustion or thermal decomposition may generate toxic vapours.

**SECTION 11: Toxicological information**

**11.1. Information on toxicological effects**

Acute toxicity : Not classified

<b>KARMA</b>	
LD50 oral rat	2750 (2600 - 2900) mg/kg
LD50 dermal rat	> 5000 mg/kg
LC50 inhalation rat	> 2.3 mg/l

Eye Irritation	: Slightly irritant (rabbit)
Skin irritation	: Not irritant.
Corrosivity	: Not classified
Sensitisation	: Not sensitizing.

Repeated dose toxicity	: Not classified
Carcinogenicity	: Not classified
Mutagenicity	: Not classified
Toxicity for reproduction	: Not classified

## SECTION 12: Ecological information

### 12.1. Toxicity

KARMA	
EC50 ( <i>P.subcapitata</i> )	> 100.9 mg/l (72h)
Potassium hydrogen carbonate (298-14-6)	
LC50 Fishes	> 1200 mg/l (96h)
EC50 <i>Daphnia magna</i>	> 860 mg/l (48h)

### 12.2. Persistence and degradability

KARMA	
Persistence and degradability	Not persistent.

### 12.3. Bioaccumulative potential

KARMA	
Bioaccumulative potential	Not relevant.

### 12.4. Mobility in soil

KARMA	
Ecology - soil	Low mobility (soil).

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods : Apply triple washing procedure of the empty container and place the rinse water in the tank or container where the mixture is prepared. Handle empty containers and waste as established by the competent authorities.

## SECTION 14: Transport information

In accordance with ADR / RID / ADNR / IMDG / ICAO / IATA

### 14.1. UN number

No dangerous good in sense of transport regulations

### 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

Other information : No supplementary information available.

#### 14.6. Special precautions for user

##### 14.6.1. Overland transport

No additional information available

##### 14.6.2. Transport by sea

No additional information available

##### 14.6.3. Air transport

No additional information available

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

Not applicable

### SECTION 15: Regulatory information

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

##### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Contains no REACH candidate substance

##### 15.1.2. National regulations

No additional information available.

#### 15.2. Chemical safety assessment

No additional information available.



## SECTION 16: Other information

Full text of H- and EUH-phrases:

Acute Tox. 4 (Inhalation)	Acute toxicity (inhalation) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Flam. Sol. 1	Flammable solids Category 1
Skin Irrit. 2	skin corrosion/irritation Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H228	Flammable solid
H302	Harmful if swallowed
H315	Causes skin irritation
H318	Causes serious eye damage
H332	Harmful if inhaled
H335	May cause respiratory irritation