

# SAFETY DATA SHEET

In accordance with 453/2010 and 1272/2008

(All references to EU regulations and directives are abbreviated into only the numeric term)

Issued 2013-03-26

Replaces issued SDS 2012-06-07

**HayesUK**

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

### 1.1. Product identifier

Trade name

**Orange & Grey Smoke 18**

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

Identified uses

Smoke for leakage tests and air flow studies

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

Company

Hayes UK Ltd  
Unit 6/7, Eagle Industrial Estate  
Brookers Road, Billingshurst  
West Sussex, RH14 9RZ  
01403 785857  
sales@hayes-uk.com

Telephone

E-Mail

### 1.4. Emergency telephone number

In case of emergency contact toxicological information, emergency tel 112 (within Europe) or 911 (for USA and Canada). For other countries, use the built-in emergency number in your cell phone

For non-emergency poison information, see <http://www.who.int/ipcs/poisons/centre/directory/euro/en/>

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

#### Classification in accordance with 1272/2008

Irritates eyes (Category 2)

Harmful to aquatic life with long-lasting effects (Category Cron 3)

#### Classification in accordance with 1999/45/EG

Harmful, Harmful to the aquatic environment.

### 2.2. Label elements

#### Label information in accordance with 1272/2008

Hazard pictograms



Signal words

Warning

Hazard statements

H319

Causes serious eye irritation

H412

Harmful to aquatic life with long lasting effects

Precautionary statements

P210

Keep away from heat, sparks, open flames, or hot surfaces . - No smoking

P273

Avoid release to the environment

#### Label information in accordance with 1999/45/EG

C.f. section 16.

### 2.3. Other hazards

The product produces smoke which can cause irritation upon contact with the eyes or inhalation under conditions of long periods of exposure or incorrect use. In case of uncertainty about how the product should be used, please contact the manufacturer or the company from which the product was originally purchased.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

This product is composed of a mixture of several solid substances.

### 3.2. Mixtures

Note that the table shows known hazards of the ingredients in a pure form. These hazards are reduced or eliminated when mixed or diluted, c.f. Section 16d.

Constituent	Classification	Concentration
<b>POTASSIUM CHLORATE</b>		
CAS No 3811-04-9	Aquatic Chronic 2, Acute Tox <i>4dust</i> , Acute Tox <i>4oral</i> , Ox Sol 1; H411, H332, H302, H271	24,9%
EC No 223-289-7	Xn O N; R9 R20/22 R51/53	
Index No 017-004-00-3		
<b>AMMONIUM CHLORIDE</b>		
CAS No 12125-02-9	Acute Tox <i>4oral</i> , Eye Irrit 2; H302, H319	19%
EC No 235-186-4	Xn; R22 R36	
Index No 017-014-00-8		

Explanations to the classification and labelling of the ingredients are given in Section 16e. Official abbreviations are printed in normal font. Text in italics are specifications and/or complement used in the calculation of the hazards of this mixture, c.f. Section 16b

Also contains component(s) not necessary to label.

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

#### Generally

No special measures are considered to be necessary. If symptoms do occur however, call a doctor/physician.

#### Upon breathing in

Inhalation of chemicals from the product in normal use is not appropriate. For generated smoke: In the case of overexposure to generated smoke, move the affected person to fresh air. If symptoms persist, consult a doctor.

#### Upon contact with the eyes

Eye contact with chemicals from the product in normal use is not appropriate. For generated smoke: If symptoms occur, Flush with lukewarm water with the eye or eyes wide open. If symptoms persist, consult a doctor. In the case of a broken or tampered product, the procedure for the constituent chemicals is as follows: Flush immediately with lukewarm water for 15 - 20 min with the eye or eyes wide open. If symptoms persist, consult a doctor.

#### Upon skin contact

Skin contact with chemicals from the product in normal use is not appropriate. In case of broken or tampered products the procedure for the constituent chemicals is as follows: Wash the skin with soap and water.

#### Upon ingestion

First rinse the mouth thoroughly with a lot of water and SPIT OUT the water. Then drink at least 1/2 liter of water and call a doctor/physician. Do NOT induce vomiting.

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

Information on symptoms are ambiguous or missing for this product.

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

Symptomatic treatment.

## SECTION 5: FIRE-FIGHTING MEASURES

### 5.1. Extinguishing media

#### Recommended extinguishing agents

Extinguish with water.

#### Unsuitable extinguishing agents

Must not be extinguished with foam, powder or carbon dioxide.

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

In case of fire, substances hazardous to health, or substances harmful in other respects, may be dispersed.

Combustible solid.

### 5.3. Advice for fire-fighters

In case of fire use a respirator mask.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

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

Avoid discharge into sewers.

### 6.2. Environmental precautions

Not applicable

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

Collect.

Residues left behind after cleaning shall be treated as hazardous waste. For further information, contact the local authority sanitation works. Present this safety data sheet.

### 6.4. Reference to other sections

For choice of gloves, c.f. Section 8.

## SECTION 7: HANDLING AND STORAGE

### 7.1. Precautions for safe handling

This product should be stored well out of reach of young children and kept safely apart from products intended for consumption.

When using, place the product on an incombustible base and check that the product has gone out completely before it is discarded.

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

Handle in premises with modern ventilation standards, store in a dry place.

Must not be stored in the vicinity of combustible material.

Keep away from moisture.

Store only in the original package.

### 7.3. Specific end uses

Not relevant.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

#### 8.1.1. National limit values, United Kingdom

All ingredients (cf. Section 3) lack occupational exposure limit values.

### 8.2. Exposure controls

In terms of minimizing risks, attention must be paid to the health hazards (c.f. Sections 2, 3 and 10) of this product or any of its ingredients according to EU directives 89/391 and 98/24 and national occupational legislation.

Eye protection should be worn if there is any danger of direct exposure or splashing.

Use protective gloves of butyl rubber, Viton or fluorine rubber, or get advice from an occupational medical expert about alternative materials. Show this safety data sheet.

Work without protective gloves should only occur when very small amounts are handled.



Choose a mechanical wear strength in line with the nature of the work in accordance to this pictogram with four digits that indicate resistance against abrasion, cutting effects, tear and puncture, where 1 is the lowest and 4 or 5 is the best.

Dust filter IIb (P2) may be required.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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

- |  |                                      |
|--|--------------------------------------|
| a) Appearance                              | Form: Solid article<br>Colour: white |
| b) Odour                                   | No smell or uncharacteristic smell   |
| c) Odour threshold                         | Not applicable                       |
| d) pH                                      | Not applicable                       |
| e) Melting point/freezing point            | Not applicable                       |
| f) Initial boiling point and boiling range | Not applicable                       |
| g) Flash point                             | Not applicable                       |

h) Evaporation rate	Not applicable
i) Flammability (solid, gas)	Not applicable
j) (Upper/lower flammability or explosive limits	Ignition temperature > 200 °C
k) Vapour pressure	Not applicable
l) Vapour density	Not applicable
m) Relative density	Not applicable
n) Solubility	Not applicable
o) Partition coefficient: n-octanol/water	Not applicable
p) Auto-ignition temperature	Not applicable
q) Decomposition temperature	Not applicable
r) Viscosity	Not applicable
s) Explosive properties	Not applicable
t) Oxidising properties	Not applicable

## 9.2. Other information

No data available

# SECTION 10: STABILITY AND REACTIVITY

## 10.1. Reactivity

The product contains no substances which can lead to hazardous reactions at normal use.

## 10.2. Chemical stability

The product is stable at normal storage and handling conditions.

## 10.3. Possibility of hazardous reactions

Not indicated

## 10.4. Conditions to avoid

Avoid heat, sparks and open flames.

## 10.5. Incompatible materials

Avoid mixing with organic material.

## 10.6. Hazardous decomposition products

Not indicated

# SECTION 11: TOXICOLOGICAL INFORMATION

## 11.1. Information on toxicological effects

### General or unspecific toxicity

Not indicated

### Acute effects

Not classified as an acutely toxic substance.

### Harmfulness

The product is a health hazard.

### Corrosive and irritating effects

Irritant on eyes, skin, mucous membranes and the upper respiratory tract.

### Relevant toxicological properties

#### POTASSIUM CHLORATE

LD50 Orally rat = 1870 mg/kg

LD50 Dermally rabbit > 2000 mg/kg

#### AMMONIUM CHLORIDE

LD50 Orally rat = 1650 mg/kg

# SECTION 12: ECOLOGICAL INFORMATION

## 12.1. Toxicity

Contains substance that is toxic to herbs. Prevent discharge to soil, water and air.

For environmental impact, see also Section 2.

### **12.2. Persistence and degradability**

No information about persistence or degradability exists but there is no reason to suppose that the product is persistent.

### **12.3. Bioaccumulative potential**

No information exists on bioaccumulation, but there is no cause for concern in respect of this.

### **12.4. Mobility in soil**

No information about mobility in the nature exists but there is no reason to suppose the product to be ecologically harmful because of this.

### **12.5. Results of PBT and vPvB assessment**

No chemical safety report has been executed.

### **12.6. Other adverse effects**

Not indicated

## SECTION 13: DISPOSAL CONSIDERATIONS

### **13.1. Waste treatment methods**

#### **Waste handling for the product**

The product after use is not classed as hazardous waste. Unused or broken products are classed as hazardous waste.

Cf. also national waste regulations.

#### **Classification according to 2006/12**

Recommended LoW-code: 16 03 03 Inorganic wastes containing dangerous substances.

#### **Recycling of the product**

Not indicated

## SECTION 14: TRANSPORT INFORMATION

Where not otherwise stated the information applies to all of the UN Model Regulations, i.e. ADR (road), RID (railway), ADN (inland waterways), IMDG (sea), and ICAO (IATA) (air).

### **14.1. UN number**

Not classified as dangerous goods

### **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

### **14.8 Other transport information**

Stowage category not indicated.

Emergency Schedule (EmS) for FIRE (IMDG) Not indicated.

Emergency Schedule (EmS) for SPILLAGE (IMDG) Not indicated.

## SECTION 15: REGULATORY INFORMATION

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

Not applicable.

### **15.2. Chemical safety assessment**

Assessment and chemical safety report in accordance with 1907/2006 Annex I has not yet been performed.

# SECTION 16: OTHER INFORMATION

## 16a. Indication of where changes have been made to the previous version of the safety data sheet

### Revisions of this document

#### Earlier versions

2012-06-07 The composition of this product was changed

## 16b. Legend to abbreviations and acronyms used in the safety data sheet

### Full texts for Hazard Class and Category Code mentioned in section 3

Aquatic Chronic 2	Toxic to aquatic life with long lasting effects (Category Cron 2)
Acute Tox 4 <sub>dust</sub>	Acute toxicity (Category 4 dust)
Acute Tox 4 <sub>oral</sub>	Acute toxicity (Category 4 oral)
Ox Sol 1	Oxidising solids (Verified Category 1)
No phys haz	Non-assigned physical hazard
Eye Irrit 2	Irritates eyes (Category 2)

### Comprehensive definition of the hazards mentioned in Section 2

#### Eye Irrit 2

If, when applied to the eye of an animal, a substance produces at least in 2 of 3 tested animals, a positive response of:

- corneal opacity  $\geq 1$  and/or
- iritis  $\geq 1$ , and/or
- conjunctival redness  $\geq 2$  and/or
- conjunctival oedema (chemosis)  $\geq 2$

calculated as the mean scores following grading at 24, 48 and 72 hours after installation of the test material, and which fully reverses within an observation period of 21 days

#### Aquatic Chronic 3

Chronic (long-term) aquatic hazard. 96 hr LC50 (for fish) 10-100 mg/l and/or

48 hr EC50 (for crustacea) 10-100 mg/l and/or

72 or 96 hr ErC50 (for algae or other aquatic plants) 10-100 mg/l and the substance is not rapidly degradable and/or the experimentally determined BCF  $\geq 500$  (or, if absent, the log Kow  $\geq 4$ ) unless the chronic toxicity NOECs are  $> 1$  mg/l

### Explanations of the abbreviations in Section 14

ADR European Agreement concerning the International Transport of Dangerous Goods by Road

RID Regulations concerning the International Transport of Dangerous Goods by Rail

ADN European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

IMDG International Maritime Dangerous Goods Code

ICAO International Civil Aviation Organization (ICAO, 999 University Street, Montreal, Quebec H3C 5H7, Canada)

IATA The International Air Transport Association

## 16c. Key literature references and sources for data

### Sources for data

Primary data for the calculation of the hazards has preferentially been taken from the official European classification list, 1272/2008 Annex I, as updated to 2013-03-28.

Where such data was lacking, on the second hand the documentation on which this official classification is based was used, e.g. IUCLID (International Uniform Chemical Information Database). On the third hand, information was used from reputable international chemical suppliers, and on the fourth hand from other available information, e.g. safety data sheets from other suppliers or information from non-profit associations, whereby the reliability of the source was judged by an expert. If, in spite of this, reliable information was not found, the hazards were judged by expert opinions based on the known properties of similar substances, and according to the principles in 1907/2006 and 1272/2008.

### Full texts for Regulations mentioned in this Safety Data Sheet

453/2010 COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

1272/2008 REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006

1999/45/EG DIRECTIVE 1999/45/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 31 May 1999 concerning the approximation of the laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations

89/391 COUNCIL DIRECTIVE (89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work

- 98/24 COUNCIL DIRECTIVE 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work (fourteenth individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC)
- 2006/12 DIRECTIVE 2006/12/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 5 April 2006 on waste
- 1907/2006 REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC Annex I

**16d. Methods of evaluating information referred to in 1272/2008 Article 9 which was used for the purpose of classification**

The calculation of the hazards of this mixture has been performed as an evaluation by applying a weight of evidence determination using expert judgement in accordance with 1272/2008 Annex I, weighing all available information having a bearing on the determination of the hazards of the mixture, and in accordance with 1907/2006 Annex XI.

**16e. List of relevant R phrases, hazard statements, safety phrases and/or precautionary statements**

**Full text for risk phrases mentioned in section 3**

- R9 Explosive when mixed with combustible material
- R20/22 Harmful by inhalation and if swallowed
- R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
- R22 Harmful if swallowed
- R36 Irritating to eyes

**Full texts for hazard statements mentioned in section 3**

- H411 Toxic to aquatic life with long lasting effects
- H332 Harmful if inhaled
- H302 Harmful if swallowed
- H271 May cause fire or explosion; strong oxidizer
- H319 Causes serious eye irritation

**16f. Advice on any training appropriate for workers to ensure protection of human health and the environment**  
**Other relevant information**

**Label information in accordance with 1999/45/EG**

Hazard symbol



Harmful

R-phrases

- R22 Harmful if swallowed
- R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

S-phrases

- S22 Do not breathe dust
- S29 Do not empty into drains
- S37 Wear suitable gloves
- S46 If swallowed, seek medical advice immediately and show this container or label

**Editorial information**

This safety data sheet has been generated by the program KemRisk®, KemRisk Sweden AB, Teknikringen 10, SE-583 30 Linköping, Sweden.