

302459 - CARAKOL 3**Safety Data Sheet****1. Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Code: **302459**
Product name: **CARAKOL 3**
Chemical name and synonym: **Metaldehyde-Denatonium benzoate**

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

Intended use: **Antiparasitic**

1.3. Details of the supplier of the safety data sheet

Name: **Adama Agricultural Solutions UK Ltd.**
Full address: **Unit 15, Thatcham Buisness Village Colthrop Way,**
District and Country: **Thatcham Berkshire RG19 4LW**

United Kingdom

Tel. **01635 860555**

Fax **01635 861555**

e-mail address of the competent person responsible for the Safety Data Sheet: **ukenquiries@adama.com**

1.4. Emergency telephone number

For urgent inquiries refer to: **National Chemical Emergency Centre (UK) - Tel. 01865 407333 (24 hours)**

2. Hazards identification.**2.1. Classification of the substance or mixture.****2.1.1. Regulation 1272/2008 (CLP) and following amendments and adjustments.**

Hazard classification and indication: --

2.1.2. Directive 67/548/EEC and following amendments and adjustments.

Danger Symbols: --

R phrases: --

The product is not classified as hazardous pursuant to the provisions set forth in Directives 67/548/EEC and 1999/45/EC and/or EC Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). However, since the product contains hazardous substances in concentrations such as to be declared in section no. 3, it requires a safety data sheet with appropriate information, compliant to EC Regulation 1907/2006 and subsequent amendments.

2.2. Label elements.

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Pictograms: --

Warning: --

Hazard indication:

EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

Caution recommendations:

P102 Keep out of reach of children.

Safety data sheet available for professional users on request.

SP1 Do not contaminate water with the product or its container.

ADAMA UK

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2.3. Other hazards.

Information not available.

3. Composition/information on ingredients.

3.1. Substances.

Information not relevant.

3.2. Mixtures.

Contains:

Identification.	Conc. %.	Classification 67/548/EEC.	Classification 1272/2008 (CLP).
METALDEHYDE			
CAS. 108-62-3	1 - 5	F R11, Xn R22	Flam. Sol. 2 H228, Acute Tox. 3 H301
EC. 203-600-2			
INDEX. 605-005-00-7			
DENATONIUM BENZOATE			
CAS. 3734-33-6	0.02-0.04	R52/53, Xn R20/22, Xi R38, Xi R41	Acute Tox. 4 H332, Acute Tox. 4 H302, Eye Dam. 1 H318, Skin Irrit. 2 H315, Aquatic Chronic 3 H412
EC. 223-095-2			
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T+ = Very Toxic(T+), T = Toxic(T), Xn = Harmful(Xn), C = Corrosive(C), Xi = Irritant(Xi), O = Oxidizing(O), E = Explosive(E), F+ = Extremely Flammable(F+), F = Highly Flammable(F), N = Dangerous for the Environment(N)

The full wording of the Risk (R) and hazard (H) phrases is given in section 16 of the sheet.

4. First aid measures.

4.1. Description of first aid measures.

EYES: Irrigate copiously with clean, fresh water for at least 15 minutes. Seek medical advice.

SKIN: Wash immediately with plenty of water. Remove contaminated clothing. If irritation persists, seek medical attention. Wash contaminated clothing before using them again.

INHALATION: Remove to open air. If breathing is irregular, seek medical advice.

INGESTION: Obtain immediate medical attention. Induce vomiting only if indicated by the doctor. Never give anything by mouth to an unconscious person.

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

For symptoms and effects caused by the contained substances see chap. 11.

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

Follow doctor's orders.

5. Firefighting measures.

5.1. Extinguishing media.

SUITABLE EXTINGUISHING MEDIA

The extinction equipment to be used is the conventional kind: carbon dioxide, foam, powder and nebulised water.

EXTINGUISHING MEDIA WHICH SHALL NOT BE USED FOR SAFETY REASONS

Do not use jets of water. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

5.2. Special hazards arising from the substance or mixture.

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Excess pressure may form in containers exposed to fire at a risk of explosion.

Do not breathe combustion products (carbon oxide, toxic pyrolysis products, etc).

5.3. Advice for firefighters.

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Hardhat with visor, fireproof clothing (fireproof jacket and trousers with straps around arms, legs and waist) work gloves (fireproof, cut proof and dielectric), self-respirator (self-protector).

302459 - CARAKOL 3**6. Accidental release measures.****6.1. Personal precautions, protective equipment and emergency procedures.**

Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site. If there are no contraindications, spray solid products with water to prevent the formation of dust. Use breathing equipment if fumes or powders are released into the air. Block the leakage if there is no hazard. Do not handle damaged containers or the leaked product before donning appropriate protective gear. For information on risks for the environmental and health, respiratory tract protection, ventilation and personal protection equipment, see the other sections of this sheet.

6.2. Environmental precautions.

The product must not penetrate the sewers, surface water, ground water and neighbouring areas.

6.3. Methods and material for containment and cleaning up.

Use inert absorbent material (sand, vermiculite, diatomaceous earth, Kieselguhr, etc.) to soak up leaked product. Collect the majority of the remaining material and deposit it in containers for disposal. If there are no contraindications, use jets of water to eliminate product residues. Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections.

Any information on personal protection and disposal is given in sections 8 and 13.

7. Handling and storage.**7.1. Precautions for safe handling.**

Do not smoke while handling and use.

7.2. Conditions for safe storage, including any incompatibilities.

Store in a well ventilated place, keep far away from sources of heat, bright flames and sparks and other sources of ignition.

7.3. Specific end use(s).

Information not available.

8. Exposure controls/personal protection.**8.1. Control parameters.**

Information not available.

8.2. Exposure controls.

As the use of adequate technical equipment must always take priority over personal protection equipment, make sure that the workplace is well aired through effective local aspiration or bad air vent.

HAND PROTECTION

Protect hands with category I (ref. Directive 89/686/EEC and standard EN 374) work gloves, such as those in latex, PVC or equivalent. The following should be considered when choosing work glove material: degradation, breakage times and permeation. Work glove resistance to preparations should be checked before use, as it can be unpredictable. Gloves' limit depends on the duration of exposure.

SKIN PROTECTION

Wear category I professional long-sleeved overalls and safety footwear (ref. Directive 89/686/CEE and standard EN 344). Wash body with soap and water after removing overalls.

RESPIRATORY PROTECTION

If the threshold value for one or more of the substances present in the preparation for daily exposure in the workplace or to a fraction established by the company's prevention and protection service is exceeded, wear an FFP3 (ref. standard EN 141) type half mask.

The use of breathing protection equipment, such as masks with organic vapour and dust/mist cartridges, is necessary in the absence of technical measures limiting worker exposure. The protection provided by masks is in any case limited.

If the substance in question is odourless or its olfactory threshold is higher than the relative exposure limit and in the event of an emergency, or when exposure levels are unknown or the concentration of oxygen in the workplace is less than 17% volume, wear self-contained, open-circuit compressed air breathing apparatus (ref. standard EN 137) or fresh air hose breathing apparatus for use with full face mask, half mask or mouthpiece (ref. standard EN 138).

EYE PROTECTION

Use of protective airtight goggles (ref. standard EN 166) recommended.

9. Physical and chemical properties.**9.1. Information on basic physical and chemical properties.**

Appearance	Pellet
Colour	blue
Odour	Slightly acrid

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Odour threshold.	Not available.
pH.	5.5-6.5 (1% aqueous dispersion)
Melting or freezing point.	Not available.
Boiling point.	Not available.
Distillation range.	Not available.
Flash point.	> 60 °C.
Evaporation Rate	Not available.
Flammability of solids and gases	Not available.
Lower inflammability limit.	Not available.
Upper inflammability limit.	Not available.
Lower explosive limit.	Not available.
Upper explosive limit.	Not available.
Vapour pressure.	Not available.
Vapour density	Not available.
Specific gravity.	(0.65-0.80) kg/L
Solubility	Hydroleakable
Partition coefficient: n-octanol/water	0.12 @ pH = 6.7 (metaldehyde)
Ignition temperature.	Not available.
Decomposition temperature.	Not available.
Viscosity	Not available.
Reactive Properties	Not oxidant

9.2. Other information.

VOC (Directive 1999/13/EC) :	0
VOC (volatile carbon) :	0

10. Stability and reactivity.**10.1. Reactivity.**

There are no particular risks of reaction with other substances in normal conditions of use.

10.2. Chemical stability.

The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions.

The vapours may also form explosive mixtures with the air.

10.4. Conditions to avoid.

Avoid overheating, electrostatic discharge and all sources of ignition.

10.5. Incompatible materials.

Information not available.

10.6. Hazardous decomposition products.

In the event of thermal decomposition or fire, vapours potentially dangerous to health may be released.

11. Toxicological information.

According to currently available data, this product has not yet produced health damages. Anyway, it must be handled carefully according to good industrial practices. This product may have slight health effects on sensitive people, by inhalation and/or cutaneous absorption and/or contact with eyes and/or ingestion.

LD50 (oral - rat): > 2000 mg/kg [OECD 423]

LD50 (dermal - rat): > 2000 mg/kg [OECD 402 B.3 - OPPTS 870.1200]

11.1. Information on toxicological effects.

METALDEHYDE

LD50 (Oral): 283 mg/kg Rat (OECD Test Guideline 401)

LD50 (Dermal): > 5000 mg/kg Rat (exposition time: 24 h)

12. Ecological information.

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or sewers or contaminate soil or vegetation.

302459 - CARAKOL 3**12.1. Toxicity.**

DENATONIUM BENZOATE

LC50 (96h): > 1000 mg/L Fish
EC50 (48h): 13 mg/L Daphnia magna

METALDEHYDE

LC50 (96h): 75 mg/L Oncorhynchus mykiss
IC50 (72h): > 200 mg/L Desmodemus subspicatus
EC50 (48h): > 90 mg/L Daphnia magna

12.2. Persistence and degradability.

Information not available.

12.3. Bioaccumulative potential.

Information not available.

12.4. Mobility in soil.

Information not available.

12.5. Results of PBT and vPvB assessment.

Information not available.

12.6. Other adverse effects.

Information not available.

13. Disposal considerations.**13.1. Waste treatment methods.**

Reuse, when possible. Neat product residues should be considered special non-hazardous waste.
Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
Solid residues may be suitable for disposal in an authorised landfill site.
CONTAMINATED PACKAGING
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

14. Transport information.

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

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

Seveso category. None.

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006.

None.

Substances in Candidate List (Art. 59 REACH).

None.

Substances subject to authorisation (Annex XIV REACH).

None.

Healthcare controls.

Information not available.

15.2. Chemical safety assessment.

No chemical safety assessment has been processed for the mixture and the substances it contains.

302459 - CARAKOL 3**16. Other information.**

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Flam. Sol. 2	Flammable solid, category 2
Acute Tox. 3	Acute toxicity, category 3
Acute Tox. 4	Acute toxicity, category 4
Eye Dam. 1	Serious eye damage, category 1
Skin Irrit. 2	Skin irritation, category 2
Aquatic Chronic 3	Hazardous to the aquatic environment, chronic toxicity category 3
H228	Flammable solid.
H301	Toxic if swallowed.
H332	Harmful if inhaled.
H302	Harmful if swallowed.
H318	Causes serious eye damage.
H315	Causes skin irritation.
H412	Harmful to aquatic life with long lasting effects.

Text of risk (R) phrases mentioned in section 2-3 of the sheet:

R11	HIGHLY FLAMMABLE.
R20/22	HARMFUL BY INHALATION AND IF SWALLOWED.
R22	HARMFUL IF SWALLOWED.
R38	IRRITATING TO SKIN.
R41	RISK OF SERIOUS DAMAGE TO EYES.
R52/53	HARMFUL TO AQUATIC ORGANISMS, MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT.

GENERAL BIBLIOGRAPHY

1. Directive 1999/45/EC and following amendments
2. Directive 67/548/EEC and following amendments and adjustments
3. Regulation (EC) 1907/2006 (REACH) of the European Parliament
4. Regulation (EC) 1272/2008 (CLP) of the European Parliament
5. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
6. Regulation (EC) 453/2010 of the European Parliament
7. The Merck Index. - 10th Edition
8. Handling Chemical Safety
9. Niosh - Registry of Toxic Effects of Chemical Substances
10. INRS - Fiche Toxicologique (toxicological sheet)
11. Patty - Industrial Hygiene and Toxicology
12. N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product .

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Changes to previous review:

The following sections were modified:

02 / 03 / 08 / 09 / 11 / 12 / 16.