SAFETY DATA SHEET
Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH) Annex II

**Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

1.1. Product identifier

**Rifle**

Pure substance/mixture Mixture

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

Recommended Use Herbicide
Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Supplier Address ADAMA Agricultural Solutions UK Ltd
Unit 15, Thatcham Business Village Colthrop Way,
Thatcham Berkshire RG19 4LW, UK: 01635 860555
Fax: 01635 861555

For further information, please contact

Email address ukenquiries@adama.com

1.4. Emergency telephone number

Emergency Telephone National Chemical Emergency Centre (UK):
Tel: 01865 407333 (24 hours)

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**Section 2: HAZARD IDENTIFICATION**

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]
Acute aquatic toxicity Category 1 - (H400)
Hazardous to the Aquatic Category 1 - (H410)
Environment - Chronic Hazard

Classification according to Directive 67/548/EEC or 1999/45/EC
Full text of R-phrases: see section 16

N;R50-53

2.2. Label elements
Labeling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms

Signal word
Warning

Hazard Statements
H410 - Very toxic to aquatic life with long lasting effects

Precautionary Statements
P102 - Keep out of reach of children
P501 - Dispose of contents/container to an approved waste disposal plant

EU Specific Hazard Statements
EUH208 - Contains 1,2-Benzisothiazolin-3-one. May produce an allergic reaction
EUH401 - To avoid risks to human health and the environment, comply with the instructions for use

Additional phrases for PPP
SP1 - Do not contaminate water with the product or its container

2.3. Other hazards
No information available

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixture

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Weight-%</th>
<th>CAS No</th>
<th>EC No</th>
<th>Index No</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
<th>Classification according to 67/548/EEC</th>
<th>M-Factor</th>
<th>REACH Registration Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desmedipham</td>
<td>13-17</td>
<td>13684-56-5</td>
<td>237-198-5</td>
<td>616-113-00-9</td>
<td>Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)</td>
<td>N; R50-53</td>
<td>M=10</td>
<td>-</td>
</tr>
<tr>
<td>Phenmedipham</td>
<td>13-17</td>
<td>13684-63-4</td>
<td>237-199-0</td>
<td>616-106-00-0</td>
<td>Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)</td>
<td>N; R50-53</td>
<td>M=1</td>
<td>-</td>
</tr>
<tr>
<td>Polyoxethylene tridecyl ether phosphate</td>
<td>&lt; 2</td>
<td>9046-01-9</td>
<td>-</td>
<td>-</td>
<td>Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Aquatic Chronic 2 (H411)</td>
<td>Xi; R38</td>
<td>Xi; R41</td>
<td>N; R51/53</td>
</tr>
<tr>
<td>2,4,6-Tris(1-phenylethyl)polyoxyethyleneated phosphates</td>
<td>&lt; 2</td>
<td>90093-37-1</td>
<td>-</td>
<td>-</td>
<td>Eye Irrit. 2 (H319)</td>
<td>Xi; R36</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Distillates (petroleum), hydrotreated light paraffinic</td>
<td>13-17</td>
<td>64742-55-8</td>
<td>265-158-7</td>
<td>-</td>
<td>Asp. Tox. 1 (H304)</td>
<td>-</td>
<td>01-21194870 77-29</td>
<td></td>
</tr>
</tbody>
</table>

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

Section 4: FIRST AID MEASURES

4.1 Description of first aid measures

General advice
In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). First aider: Pay attention to self-protection!
Inhalation
Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Call a physician.

Skin Contact
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Consult a physician if necessary.

Eye contact
Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.

Ingestion
Rinse mouth. Drink plenty of water. If symptoms persist, call a physician.

Self-protection of the first aider
Use personal protective equipment as required.

4.2. Most important symptoms and effects, both acute and delayed
Symptoms
None known

4.3. Indication of any immediate medical attention and special treatment needed
Note to physicians
Treat symptomatically.

Section 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media
Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media
No information available.

5.2. Special hazards arising from the substance or mixture
No specific hazard known.

5.3. Advice for firefighters
In the event of fire, wear self-contained breathing apparatus
In the event of fire and/or explosion do not breathe fumes

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures
Personal precautions
Use personal protective equipment as required.

For emergency responders
Use personal protection recommended in Section 8.

6.2. Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not allow into any sewer, on the ground or into any body of water. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

6.3. Methods and material for containment and cleaning up
Methods for cleaning up
Take up mechanically, placing in appropriate containers for disposal.

6.4. Reference to other sections

Other Information
See also section 8, 13

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling
Use personal protective equipment as required. Use only with adequate ventilation.

General Hygiene Considerations
When using do not eat, drink or smoke. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions
Keep container tightly closed in a dry and well-ventilated place.

7.3. Specific end use(s)

Risk Management Methods (RMM)
The information required is contained in this Material Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Derived No Effect Level (DNEL) No information available
Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering Controls
Ensure adequate ventilation, especially in confined areas.

Personal protective equipment
Eye/face protection
Tight sealing safety goggles.

Body Protection
Suitable protective clothing.

General Hygiene Considerations
When using do not eat, drink or smoke. Wash contaminated clothing before reuse.

Environmental exposure controls
Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water. Prevent product from entering drains.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Method</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical state</td>
<td>Liquid</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Section 10: STABILITY AND REACTIVITY

10.1. Reactivity
Not available.

10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
None under normal processing.

10.4. Conditions to avoid
Heat, flames and sparks.

10.5. Incompatible materials
No information available

10.6. Hazardous decomposition products

Chemical Name
Desmedipham

Carbon oxides, Nitrogen oxides (NOx).

Section 11: TOXICOLOGY INFORMATION

11.1. Information on toxicological effects

9.2. Other information

Color: white or light yellow
Odor: characteristic
Odor threshold: No data available

pH: 3.8 - 4.8
Melting point/freezing point °C: ---
Boiling point/boiling range °C: No data available
Flash point °C: > 100
Evaporation rate: Not Applicable
Flammability (solid, gas): Not applicable for liquids
Upper/lower flammability or explosive limits: No data available

Vapor pressure kPa: ----
Vapor density: No data available
Relative density: 1.061
Solubility(ies) mg/l: No data available
Partition Coefficient (n-octanol/water) Log Pow: See Section 12 for more information
Autoignition temperature °C: ----
Decomposition temperature °C: No data available
Kinematic viscosity mm2/s 40 °C: 567
Explosive properties: Not an explosive
Oxidizing properties: No

Bulk density g/ml: ----
Surface tension mN/m: 37.3
Minimum ignition energy (MIE) mJ: 37.3
### Acute toxicity

<table>
<thead>
<tr>
<th></th>
<th>Values</th>
<th>Species</th>
<th>Method</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral LD50 mg/kg</td>
<td>&gt; 2000</td>
<td>Rat</td>
<td>OECD 401</td>
<td></td>
</tr>
<tr>
<td>Dermal LD50 mg/kg</td>
<td>&gt; 2000</td>
<td>Rat</td>
<td>OECD 402</td>
<td></td>
</tr>
<tr>
<td>Inhalation LC50 mg/l/4h</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Non-irritating to the skin</td>
<td>Rabbit</td>
<td>OECD 404</td>
<td>No data available</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Not irritating to eyes</td>
<td>Rabbit</td>
<td>OECD 405</td>
<td></td>
</tr>
<tr>
<td>Respiratory/skin sensitization</td>
<td>Not a skin sensitizer</td>
<td>Guinea pig</td>
<td>OECD 406</td>
<td></td>
</tr>
</tbody>
</table>

### Chronic toxicity

**Germ cell mutagenicity**
- **Chemical Name**
  - Desmedipham: Not classified
  - Phenmedipham: Not classified

**Carcinogenicity**
- **Chemical Name**
  - Desmedipham: Not Carcinogenic
  - Phenmedipham: Not Carcinogenic

**Reproductive toxicity**
- **Chemical Name**
  - Desmedipham: Not toxic for the reproductive system
  - Phenmedipham: Not toxic for the reproductive system

### STOT - single exposure

<table>
<thead>
<tr>
<th></th>
<th>Values</th>
<th>Species</th>
<th>Method</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desmedipham</td>
<td>No data available</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phenmedipham</td>
<td>No data available</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### STOT - repeated exposure

<table>
<thead>
<tr>
<th></th>
<th>Values</th>
<th>Species</th>
<th>Method</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desmedipham</td>
<td>No data available</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phenmedipham</td>
<td>No data available</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Aspiration hazard

<table>
<thead>
<tr>
<th></th>
<th>Values</th>
<th>Species</th>
<th>Method</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desmedipham</td>
<td>No data available</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phenmedipham</td>
<td>No data available</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Section 12: ECOLOGICAL INFORMATION

#### 12.1. Toxicity

**Aquatic toxicity**

<table>
<thead>
<tr>
<th></th>
<th>Values</th>
<th>Species</th>
<th>Method</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fish 96-hour LC50 mg/l</td>
<td>&gt; 6.96</td>
<td>Rainbow trout</td>
<td>OECD 203</td>
<td>No data available</td>
</tr>
<tr>
<td>Crustacea 48-hour EC50 mg/l</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Algae 72-hour EC50 mg/l</td>
<td>0.568</td>
<td>P. subcapitata</td>
<td>OECD 201</td>
<td>Biomass</td>
</tr>
<tr>
<td>Other plants EC50 mg/l</td>
<td></td>
<td></td>
<td></td>
<td>Not available</td>
</tr>
</tbody>
</table>

**Terrestrial Toxicity**

<table>
<thead>
<tr>
<th></th>
<th>Values</th>
<th>Species</th>
<th>Method</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birds Oral LD50 mg/kg</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt; 2100</td>
<td>Mallard duck</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Values</th>
<th>Species</th>
<th>Method</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desmedipham</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phenmedipham</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### ADAMA
12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>Abiotic Degradation</th>
<th>Values</th>
<th>Method</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water DT50 days</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemical Name</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desmedipham</td>
<td>---</td>
<td></td>
<td>No data available</td>
</tr>
<tr>
<td>Phenmedipham</td>
<td>0.11 - 0.18</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Soil DT50 days            |        |        |                  |
| Chemical Name             |        |        |                  |
| Desmedipham               | 34     |        |                  |
| Phenmedipham              | 37     |        |                  |

| Biodegradation            |        |        |                  |
| Chemical Name             |        |        |                  |
| Desmedipham               | No data available |        |                  |
| Phenmedipham              | Not readily biodegradable |        |                  |

12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>Partition Coefficient</th>
<th>Values</th>
<th>Method</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>(n-octanol/water) Log Pow</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemical Name</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desmedipham</td>
<td>3.59</td>
<td></td>
<td>pH 3.9</td>
</tr>
<tr>
<td>Phenmedipham</td>
<td>2.7</td>
<td></td>
<td>pH 6.4, 20-25 °C</td>
</tr>
</tbody>
</table>

| Bioconcentration factor (BCF) |        |        |                  |
| Chemical Name                |        |        |                  |
| Desmedipham                  | ---    |        | No data available|
| Phenmedipham                 | 165    |        |                  |

12.4. Mobility in soil

<table>
<thead>
<tr>
<th>Adsorption/Desorption</th>
<th>Values</th>
<th>Method</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Name</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phenmedipham</td>
<td>888</td>
<td></td>
<td>Koc</td>
</tr>
</tbody>
</table>

12.5. Results of PBT and vPvB assessment
The components in this formulation do not meet the criteria for classification as PBT or vPvB

12.6. Other adverse effects
No information available.

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

- **Waste from residues/unused products**: Disposal should be in accordance with applicable regional, national and local laws and regulations.
- **Contaminated packaging**: Improper disposal or reuse of this container may be dangerous and illegal.
- **Other Information**: Waste codes should be assigned by the user based on the application for which the product was used.
IMDG/IMO
14.1 UN/ID No 3082
14.2 Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Desmedipham; Phenmedipham)
14.3 Hazard Class 9
14.4 Packing Group III
14.5 Marine pollutant Yes
14.6 Special precautions for user

RID/ADR
14.1 UN/ID No 3082
14.2 Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Desmedipham; Phenmedipham)
14.3 Hazard Class 9
14.4 Packing Group III
14.5 Environmental hazard Yes
14.6 Special precautions for user

ICAO/IATA
14.1 UN/ID No 3082
14.2 Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Desmedipham; Phenmedipham)
14.3 Hazard Class 9
14.4 Packing Group III
14.5 Environmental hazard Yes
14.6 Special precautions for user
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

15.2. Chemical safety assessment
A chemical safety assessment according to regulation (EC) No. 1907/2006 is not required. A risk assessment was performed according to directive (EC) No. 91/414 or according to regulation (EC) No. 1107/2009.

Section 16: OTHER INFORMATION

Full text of R-phrases referred to under sections 2 and 3
R36 - Irritating to eyes
R38 - Irritating to skin
R41 - Risk of serious damage to eyes
R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
Full text of H-Statements referred to under sections 2 and 3
H400 - Very toxic to aquatic life
H318 - Causes serious eye damage
H410 - Very toxic to aquatic life with long lasting effects
H319 - Causes serious eye irritation
H304 - May be fatal if swallowed and enters airways
H411 - Toxic to aquatic life with long lasting effects
H315 - Causes skin irritation

Revision Note
*** - Change from previous version.

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer
The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet