1. Identification of the substance/mixture and of the company/undertaking

Product identifier

ARAMO

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

Relevant identified uses: crop protection product, herbicide

Details of the supplier of the safety data sheet

Company:
BASF SE
67056 Ludwigshafen
GERMANY
Operating Division Crop Protection

Telephone: +49 621 60-27777
E-mail address: Produktinformation-Pflanzenschutz@basf.com

Emergency telephone number

International emergency number:
Telephone: +49 180 2273-112

2. Hazards Identification

Label elements

Globally Harmonized System, EU (GHS)

Pictogram:
Signal Word:
Danger

Hazard Statement:
H315 Causes skin irritation.
H304 May be fatal if swallowed and enters airways.
H351 Suspected of causing cancer.
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
H412 Harmful to aquatic life with long lasting effects.
EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

Precautionary Statements (Prevention):
P201 Obtain special instructions before use.
P280e Wear protective gloves/clothing.
P264 Wash with plenty of water and soap thoroughly after handling.

Precautionary Statements (Response):
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P331 Do NOT induce vomiting.
P308 + P313 IF exposed or concerned: Get medical advice/attention.
P332 + P313 If skin irritation occurs: Get medical advice/attention.
P361 Remove/Take off immediately all contaminated clothing.

Precautionary Statements (Storage):
P405 Store locked up.

Precautionary Statements (Disposal):
P501 Dispose of contents/container to hazardous or special waste collection point.

According to Regulation (EC) No 1272/2008 [CLP]
Hazard determining component(s) for labelling: TEPRALOXYDIM, SOLVENT NAPHTHA

According to Directive 67/548/EEC or 1999/45/EC

EEE Directives

Hazard symbol(s)
Xn Harmful.

R-phrase(s)
R38 Irritating to skin.
R40 Limited evidence of a carcinogenic effect.
R62 Possible risk of impaired fertility.
R63 Possible risk of harm to the unborn child.
R65 Harmful: may cause lung damage if swallowed.
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrase(s)
S2 Keep out of the reach of children.
S13 Keep away from food, drink and animal feeding stuffs.
S20/21 When using do not eat, drink or smoke.
S36/37 Wear suitable protective clothing and gloves.
S46 If swallowed, seek medical advice immediately and show this container or label.
S62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Hazard determining component(s) for labelling: TEPRALOXYDIM, SOLVENT NAPHTHA

Classification of the substance or mixture

According to Regulation (EC) No 1272/2008 [CLP]

<table>
<thead>
<tr>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asp. Tox. 1</td>
</tr>
<tr>
<td>Skin Corr./Irrit. 2</td>
</tr>
<tr>
<td>Carc. 2</td>
</tr>
<tr>
<td>Repr. 2 (fertility)</td>
</tr>
<tr>
<td>Repr. 2 (unborn child)</td>
</tr>
<tr>
<td>Aquatic Chronic 3</td>
</tr>
</tbody>
</table>

According to Directive 67/548/EEC or 1999/45/EC

<table>
<thead>
<tr>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carc. Cat. 3</td>
</tr>
<tr>
<td>Repr. Cat. 3</td>
</tr>
</tbody>
</table>

Possible Hazards:
- Irritating to skin.
- Limited evidence of a carcinogenic effect.
- Possible risk of impaired fertility.
- Possible risk of harm to the unborn child.
- Harmful: may cause lung damage if swallowed.
- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

For the classifications not written out in full in this section the full text can be found in section 16.

Other hazards

According to Regulation (EC) No 1272/2008 [CLP]

See section 12 - Results of PBT and vPvB assessment.
3. Composition/Information on Ingredients

Mixtures

Chemical nature
crop protection product, herbicide, Emulsifiable concentrate (EC)

Hazardous ingredients (GHS)
according to Regulation (EC) No. 1272/2008

<table>
<thead>
<tr>
<th>Tepraloxydim</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content (W/W): 5.3 %</td>
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<tr>
<td>CAS Number: 149979-41-9</td>
</tr>
<tr>
<td>Carc. 2</td>
</tr>
<tr>
<td>Repr. 2 (fertility)</td>
</tr>
<tr>
<td>Repr. 2 (unborn child)</td>
</tr>
<tr>
<td>H351, H361fd</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>solvent naphtha</th>
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</thead>
<tbody>
<tr>
<td>Content (W/W): &lt; 40 %</td>
</tr>
<tr>
<td>CAS Number: 64742-94-5</td>
</tr>
<tr>
<td>REACH registration number: 01-2119451097-39</td>
</tr>
<tr>
<td>Asp. Tox. 1</td>
</tr>
<tr>
<td>Aquatic Chronic 2</td>
</tr>
<tr>
<td>H411, H304, EUH066</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Docusate sodium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content (W/W): &lt; 2.5 %</td>
</tr>
<tr>
<td>CAS Number: 577-11-7</td>
</tr>
<tr>
<td>EC-Number: 209-406-4</td>
</tr>
<tr>
<td>Skin Corr./Irrit. 2</td>
</tr>
<tr>
<td>Eye Dam./Irrit. 2</td>
</tr>
<tr>
<td>H319, H315</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>naphthalene</th>
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<tbody>
<tr>
<td>Content (W/W): &lt; 1 %</td>
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<tr>
<td>CAS Number: 91-20-3</td>
</tr>
<tr>
<td>EC-Number: 202-049-5</td>
</tr>
<tr>
<td>INDEX-Number: 601-052-00-2</td>
</tr>
<tr>
<td>Acute Tox. 4 (oral)</td>
</tr>
<tr>
<td>Carc. 2</td>
</tr>
<tr>
<td>Aquatic Acute 1</td>
</tr>
<tr>
<td>Aquatic Chronic 1</td>
</tr>
<tr>
<td>M-factor acute: 1</td>
</tr>
<tr>
<td>M-factor chronic: 1</td>
</tr>
<tr>
<td>H302, H400, H410, H351</td>
</tr>
</tbody>
</table>

Hazardous ingredients
according to Directive 1999/45/EC

<table>
<thead>
<tr>
<th>Tepraloxydim</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content (W/W): 5.3 %</td>
</tr>
<tr>
<td>CAS Number: 149979-41-9</td>
</tr>
<tr>
<td>Hazard symbol(s): Xn</td>
</tr>
<tr>
<td>R-phrase(s): 40, 62, 63</td>
</tr>
</tbody>
</table>
solvent naphtha

Content (W/W): < 40 %
CAS Number: 64742-94-5
REACH registration number: 01-2119451097-39
Hazard symbol(s): Xn, N
R-phrase(s): 65, 66, 51/53

Docusate sodium

Content (W/W): < 2.5 %
CAS Number: 577-11-7
EC-Number: 209-406-4
Hazard symbol(s): Xi
R-phrase(s): 36/38

naphthalene

Content (W/W): < 1 %
CAS Number: 91-20-3
EC-Number: 202-049-5
INDEX-Number: 601-052-00-2
Hazard symbol(s): Xn, N
R-phrase(s): 22, 40, 50/53
Carc. Cat. 3

For the classifications not written out in full in this section, including the indication of danger, the hazard symbols, the R phrases, and the hazard statements, the full text is listed in section 16.

4. First-Aid Measures

Description of first aid measures
First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). Immediately remove contaminated clothing.

If inhaled:
Keep patient calm, remove to fresh air, seek medical attention.

On skin contact:
Immediately wash thoroughly with soap and water, seek medical attention.

On contact with eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:
Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention. Do not induce vomiting due to aspiration hazard.

Most important symptoms and effects, both acute and delayed
Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.. Further important symptoms and effects are so far not known.
5. Fire-Fighting Measures

Extinguishing media
Suitable extinguishing media: water spray, foam, dry powder, carbon dioxide

Special hazards arising from the substance or mixture
| carbon monoxide, hydrogen chloride, Carbon dioxide, nitrogen oxides, organochloric compounds |
| The substances/groups of substances mentioned can be released in case of fire.

Advice for fire-fighters
Special protective equipment: Wear self-contained breathing apparatus and chemical-protective clothing.

Further information: Keep containers cool by spraying with water if exposed to fire. In case of fire and/or explosion do not breathe fumes. Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures
Do not breathe vapour/spray. Use personal protective clothing. Avoid contact with the skin, eyes and clothing.

Environmental precautions
Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up
For small amounts: Pick up with suitable absorbent material (e.g. sand, sawdust, general-purpose binder, kieselguhr).
For large amounts: Dike spillage. Pump off product.
Dispose of absorbed material in accordance with regulations. Collect waste in suitable containers, which can be labeled and sealed. Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations.

Reference to other sections
Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

7. Handling and Storage

Precautions for safe handling
No special measures necessary if stored and handled correctly. Ensure thorough ventilation of stores and work areas. When using do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift.
Protection against fire and explosion:
Vapours may form ignitable mixture with air. Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy.

**Conditions for safe storage, including any incompatibilities**
Segregate from foods and animal feeds.
Further information on storage conditions: Keep away from heat. Protect from direct sunlight.

Storage stability:
Storage duration: 36 Months

**Specific end use(s)**
For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

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### 8. Exposure Controls/Personal Protection

**Control parameters**

Components with workplace control parameters

64742-94-5: Solvent naphtha (petroleum), heavy arom.; Kerosine - unspecified
91-20-3: naphthalene

TWA value 50 mg/m3 ; 10 ppm (OEL (EU)) indicative

**Exposure controls**

**Personal protective equipment**

Respiratory protection:
Suitable respiratory protection for higher concentrations or long-term effect: Combination filter for gases/vapours of organic, inorganic, acid inorganic and alkaline compounds (e.g. EN 14387 Type ABEK).

Hand protection:
Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) and other

Eye protection:
Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection:
Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

**General safety and hygiene measures**
The statements on personal protective equipment in the instructions for use apply when handling crop-protection agents in final-consumer packing. Wearing of closed work clothing is recommended. Store work clothing separately. Keep away from food, drink and animal feeding stuffs.
9. Physical and Chemical Properties

Information on basic physical and chemical properties

Form: liquid
Colour: yellow
Odour: faintly aromatic
Odour threshold: not determined
pH value: approx. 3 - 5 (1 % (m), 20 °C) (as an emulsion)
crystallization temperature: < -20 °C
Boiling point: > 200 °C (1,013 mbar) Information applies to the solvent.
Flash point: 112 °C (DIN EN 22719; ISO 2719)
Evaporation rate: not determined
Flammability: not highly flammable
Lower explosion limit: not determined
Upper explosion limit: not determined
Vapour pressure: The product has not been tested.
Density: approx. 0.94 g/cm³ (20 °C)
Relative vapour density (air): not determined
Solubility in water: emulsifiable
Information on: tepraloxydim (ISO); (RS)-(EZ)-2-[1-{[(2E)-3-chloroallyloxyimino]propyl}-3-hydroxy-5-perhydropyran-4-ylcyclohex-2-en-1-one
Partitioning coefficient n-octanol/water (log Kow): 1.7
(20 °C; pH value: 7)
Thermal decomposition: not determined
Viscosity, dynamic: approx. 7.2 mPa.s (20 °C, 100 1/s)
Explosion hazard: Based on the chemical structure there is no indicating of explosive properties.
Fire promoting properties: Based on its structural properties the product is not classified as oxidizing.

Other information

Other Information:
If necessary, information on other physical and chemical parameters is indicated in this section.
10. Stability and Reactivity

Reactivity
No hazardous reactions if stored and handled as prescribed/indicated.

Chemical stability
The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions
No hazardous reactions if stored and handled as prescribed/indicated.

Conditions to avoid
See MSDS section 7 - Handling and storage.

Incompatible materials
Substances to avoid:
strong bases, strong acids, strong oxidizing agents

Hazardous decomposition products
Hazardous decomposition products:
No hazardous decomposition products if stored and handled as prescribed/indicated.

11. Toxicological Information

Information on toxicological effects

Acute toxicity
Assessment of acute toxicity:
Virtually nontoxic after a single ingestion. Virtually nontoxic after a single skin contact. Virtually nontoxic by inhalation.

Experimental/calculated data:
LD50 rat (oral): > 5,000 mg/kg (OECD Guideline 401)
LC50 rat (by inhalation): > 5.7 mg/l 4 h (OECD Guideline 403)
LD50 rat (dermal): > 4,000 mg/kg (OECD Guideline 402)

Irritation
Assessment of irritating effects:
Skin contact causes irritation. Not irritating to the eyes.

Experimental/calculated data:
Skin corrosion/irritation rabbit: Irritant. (OECD Guideline 404)
Serious eye damage/irritation rabbit: non-irritant (OECD Guideline 405)
Respiratory/Skin sensitization

Assessment of sensitization:
There is no evidence of a skin-sensitizing potential.

Experimental/calculated data:
modified Buehler test guinea pig: Skin sensitizing effects were not observed in animal studies. (OECD Guideline 406)

Germ cell mutagenicity

Assessment of mutagenicity:
The product has not been tested. The statement has been derived from the properties of the individual components. Mutagenicity tests revealed no genotoxic potential.

Carcinogenicity

Assessment of carcinogenicity:
The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: Tepraloxydim
Assessment of carcinogenicity:
| Indication of possible carcinogenic effect in animal tests.

----------------------------------

Reproductive toxicity

Assessment of reproduction toxicity:
The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: Tepraloxydim
Assessment of reproduction toxicity:
| The results of animal studies suggest a fertility impairing effect.

----------------------------------

Developmental toxicity

Assessment of teratogenicity:
The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: Tepraloxydim
Assessment of teratogenicity:
| Indications of possible developmental toxicity/teratogenicity were seen in animal studies.

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Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:
The product has not been tested. The statement has been derived from the properties of the individual components. No substance-specific organotoxicity was observed after repeated administration of high doses to animals.
Aspiration hazard

May also damage the lung at swallowing (aspiration hazard).

Other relevant toxicity information

Misuse can be harmful to health.

12. Ecological Information

Toxicity

Assessment of aquatic toxicity:
Acutely harmful for aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Toxicity to fish:
LC50 (96 h) 10.2 mg/l, Oncorhynchus mykiss

Aquatic invertebrates:
EC50 (48 h) 11.31 mg/l, Daphnia magna

Aquatic plants:
EC50 (72 h) 13 mg/l, Pseudokirchneriella subcapitata

Persistence and degradability

Assessment biodegradation and elimination (H2O):
The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: Tepraloxydim
Assessment biodegradation and elimination (H2O):
Not readily biodegradable (by OECD criteria).  

Bioaccumulative potential

Assessment bioaccumulation potential:
The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: Tepraloxydim
Bioaccumulation potential:
Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

Mobility in soil (and other compartments if available)

Assessment transport between environmental compartments:
The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: Tepraloxydim
Assessment transport between environmental compartments:
Following exposure to soil, the product trickles away and can - dependant on degradation - be transported to deeper soil areas with larger water loads.

Results of PBT and vPvB assessment
The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria.

Other adverse effects
The product does not contain substances that are listed in Annex I of Regulation (EC) 2037/2000 on substances that deplete the ozone layer.

Additional information
Other ecotoxicological advice:
Do not discharge product into the environment without control.

13. Disposal Considerations

Waste treatment methods
Must be sent to a suitable incineration plant, observing local regulations.

Contaminated packaging:
Contaminated packaging should be emptied as far as possible and disposed of in the same manner as the substance/product.

14. Transport Information

Land transport

| ADR | Not classified as a dangerous good under transport regulations |
| RID | Not classified as a dangerous good under transport regulations |

Inland waterway transport

| ADN | Not classified as a dangerous good under transport regulations |

Sea transport

| IMDG | Not classified as a dangerous good under transport regulations |
15. Regulatory Information

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

For the user of this plant-protective product applies: 'To avoid risks to man and the environment, comply with the instructions for use.' (Directive 1999/45/EC, Article 10, No. 1.2)

**Chemical Safety Assessment**

Advice on product handling can be found in sections 7 and 8 of this safety data sheet.

16. Other Information

For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

Full text of the classifications, including the indication of danger, the hazard symbols, the R phrases, and the hazard statements, if mentioned in section 2 or 3:

- Xn: Harmful.
- N: Dangerous for the environment.
- Xi: Irritant.
- 40: Limited evidence of a carcinogenic effect.
- 62: Possible risk of impaired fertility.
- 63: Possible risk of harm to the unborn child.
- 65: Harmful: may cause lung damage if swallowed.
- 66: Repeated exposure may cause skin dryness or cracking.
- 51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- 36/38: Irritating to eyes and skin.
- 22: Harmful if swallowed.
- 50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

- Asp. Tox.: Aspiration hazard
- Skin Corr./Irrit.: Skin corrosion/irritation
- Carc.: Carcinogenicity
- Repr.: Reproductive toxicity
- Aquatic Chronic: Hazardous to the aquatic environment - chronic
- Eye Dam./Irrit.: Serious eye damage/eye irritation
- Acute Tox.: Acute toxicity
- Aquatic Acute: Hazardous to the aquatic environment - acute
- Carc. Cat. 3: Carcinogenic substances Category 3: Substances which cause concern for man owing to possible carcinogenic effects.
- Repr. Cat. 3: Reprotoxic substances (fertility or development) Category 3: Substances which cause concern for humans owing to possible developmental toxic...
effects or substances which cause concern for human fertility.

H351 Suspected of causing cancer.
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
H411 Toxic to aquatic life with long lasting effects.
H304 May be fatal if swallowed and enters airways.
EUH066 Repeated exposure may cause skin dryness or cracking.
H319 Causes serious eye irritation.
H315 Causes skin irritation.
H302 Harmful if swallowed.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The data do not describe the product’s properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

Vertical lines in the left hand margin indicate an amendment from the previous version.