



BASF
The Chemical Company

Basagran®

Reg. No 92-C-84-3

NET VOLUME:

5 LITRES



POISON
AVOID BREATHING VAPOUR

Composition:

Active ingredient: bendioxide

Inert ingredient:

Chemical Group: Thiasdiasine

(mass / vol)
480g /L
520g /L

A WATER SOLUBLE SOLUTION CONTACT HERBICIDE FOR THE POST-EMERGENCE CONTROL OF CERTAIN BROADLEAF WEEDS AND YELLOW NUTSEdge IN BEANS, GROUNDNUTS, SOYABEANS, PEAS, MAIZE, SORGHUM, SMALL GRAIN, SUGARCANE AND OTHER CROPS.

Registered by:

Pivotal Agro-Services (Pvt) Ltd
Agriculture House, Adylinn Road, Marlborough
PO Box WGT 450, Westgate, Harare
Tel: (263-4) 309800 – 18, Fax / Direct Line: (263-4) 309825

Manufactured by

BASF AG, 67056 Ludwigshafen – Germany

Batch No :

Date of Manufacture :

Expiry Date :

® Registered Trademark for BASF

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TO CAUSE HAZARD IN THE USE, STORAGE OR DISPOSAL OF THIS SUBSTANCE IS AN OFFENCE

READ THE LABEL BEFORE USING THE PRODUCT

WARNINGS

1. Poisonous when swallowed.
2. May cause skin- or eye irritation.
3. Store in original container in a cool dry place away from food, feed and seed.
4. Keep out of reach of children, uninformed persons and animals.
5. Prevent spray drift onto other susceptible crops.
6. Crop injury may occur if land treated with a mixture of **BASAGRAN**[®] and Atrazine is planted to any crop other than maize in the same season. Read the Atrazine label for use restrictions.
7. **BASAGRAN**[®] should preferably not be applied to leguminous crops that were planted with an organophosphate insecticide, as a combination of these products may cause damage to the crop. Consult the supplier for advice.
8. Under no conditions should a surfactant/sticker be added to Basagran for application in soyabeans, peas, beans or sorghum.

WARRANTY: Although this remedy has been extensively tested under a large variety of conditions, the registration holder does not warrant that it will be efficacious under all conditions because the action and effect thereof may be affected by factors such as abnormal soil, climatic and storage conditions, quality of dilution water, compatibility with other substances not indicated on the label and the occurrence of resistance of weeds against the remedy concerned, as well as by the method, time and accuracy of application. The registration holder furthermore does not accept responsibility for damage to crops, vegetation, the environment or harm to man or animal or for lack of performance of the remedy concerned, due to failure of the user to follow the label instructions or to the occurrence of conditions which could not have been foreseen in terms of the registration. Consult the supplier in the event of any uncertainty.

PRECAUTIONS

1. Handle with care avoid splashing and contact with skin
2. Wear suitable protective clothing
3. Do not inhale fumes or spray mist.
4. Wash after accidental skin contact.
5. Do not eat, drink or smoke while using and before washing hands and face or change of clothing.
6. Prevent contamination of food, feed, drinking water and eating utensils.
7. DO NOT CONTAMINATE grazing, rivers and dams or other sources of water supply.
8. Wash out applicator thoroughly with clean water before using with other remedies.





9. Rinse empty container three times with a volume of water equal to at least one tenth of that of the container and add the rinsings to the content of the spray tank before disposing of the container in the prescribed manner.
10. Destroy empty container by perforation and flattening and NEVER use for any other purpose.

USE RESTRICTIONS

1. Do not use BASAGRAN® if danger of frost is imminent and / or if the crop is under cold stress.
2. Grasses and Red nutsedge (*Cyperus rotundus*) are not controlled with BASAGRAN®.

First-Aid Measures

General advice:

Avoid contact with the skin, eyes and clothing. Take off immediately all contaminated clothing. If difficulties occur: Obtain medical attention. Show container, label and/or safety data sheet to physician.

If inhaled:	Keep patient calm, remove to fresh air, seek medical attention
On skin contact	After contact with skin, wash immediately with plenty of water and soap. If irritation develops, seek medical attention
On contact with eyes	Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.
On ingestion:	Do not induce vomiting unless told to by a poison control centre or doctor. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Rinse mouth and then drink plenty of water.

Note to physician: Treatment: Treat symptomatically (decontamination and vital signs). No known specific antidote.

Liquid aspirated in to the respiratory tract may cause bronchopneumonia or pulmonary edema





DIRECTIONS FOR USE:

USE ONLY AS DIRECTED.

Compatibility: **BASAGRAN**[®] is compatible with Atrazine. It is however always recommended that the compatibility of **BASAGRAN**[®] with other herbicides, insecticides and adjuvants, have to be tested on a small scale, before it is used in spray mixtures"

Application

1. Apply **BASAGRAN**[®] early post-emergence when weeds are young (2-4 leaf stage) and growing actively.
2. **BASAGRAN**[®] is a contact herbicide, therefore thorough wetting of the weeds is essential. Basagran has no residual action on the soil and will not control weeds, nutsedge, tubers, which have not germinated at the time of spraying, therefore late germinating weeds require re-spraying.
3. Rainfall or overhead irrigation within 8 hours after application may nullify the effect of **BASAGRAN**[®].
4. Apply **BASAGRAN**[®] in a minimum of 300L water per hectare using hollow cone or flat fan nozzles with a minimum spray pressure of 350 kPa.
5. Warm and humid weather conditions are necessary for good weed control. Drought conditions before, during and after application will result in poor weed control.

NOTE 1

Yellow nutsedge control

Control of yellow nutsedge (*Cyperus esculentus*) can only be achieved if favourable conditions prevail before and during the time of spraying, i.e. warm, humid weather (relative humidity not under 65%) and adequate soil moisture for optimum plant growth. The majority of yellow nutsedge plants should be beyond the 4-leaf stage at the time of spraying. A minimum rate of 3L **BASAGRAN**[®]/ ha should be sprayed in not less than 300L water. On dense stands of nutsedge in maize, grain sorghum, and groundnuts (not soyabeans and peas), the rate of **BASAGRAN**[®] must be increased to 4L/ha and in extreme cases to 5L/ha and 500L/ ha water must be used. Under these conditions, the use of hollow cone nozzles and a spray pressure of 500 kPa is recommended and the addition of a surfactant/sticker is advisable.

The duration of control obtained is dependent on the state of germination of yellow nutsedge and on the conditions prevailing before, during and after the spray operation, as described above.

A second application of BASAGRAN[®] will be necessary if regrowth (second flush) of yellow nutsedge occurs.

Spot treatments can be carried out with a mixture of 1L **BASAGRAN**[®] in 100L water (1%) if conditions are favourable, as described above. Ensure thorough wetting of plants, but do not exceed the dosage rate per area, as recommended in the **APPLICATION TABLES**.





Under less favourable conditions yellow nutsedge will only be suppressed and re-growth might occur. In this case a second application of **BASAGRAN**® at 7–10 days after the first application may be necessary. Under these conditions the addition of a surfactant/sticker, is advisable.

Under adverse conditions, e.g. drought, cold weather, dry windy conditions and low air humidity, **BASAGRAN**® will not control yellow nutsedge.

NOTE 2

- If growing conditions are extremely favourable, the following weeds can be effectively controlled with **BASAGRAN**® at 2.0L/ ha if they have not reached the 4-leaf stage:

WEED	COMMON NAME
<i>Acanthospermum hispidum</i>	Upright starbur
<i>Bidens pilosa</i>	Common blackjack
<i>Datura ferox</i>	Large thorn apple
<i>Datura stramonium</i>	Common thorn apple
<i>Nicandra physalodes</i>	Apple of Peru
<i>Xanthium strumarium</i>	Cocklebur

NOTE 3

- The degree of control of the following weeds can vary considerably, according to local conditions:

WEED	COMMON NAME
<i>Commelina benghalensis</i>	Wandering Jew
<i>Richardia brasiliensis</i>	Mexican clover
<i>Schkuhria pinnata</i>	Dwarf marigold
<i>Tribulus terrestris</i>	Devils thorn

Improved control of the weeds mentioned here above in maize and grain sorghum can be obtained by adding Atrazine to the **BASAGRAN**® spray mixture according to the recommendations in the **APPLICATION TABLE** for **BASAGRAN**® + Atrazine.





APPLICATION TABLE FOR BASAGRAN® ONLY

CROP	WEED TYPE	DOSAGE	REMARKS
BEANS (Dry beans, *green beans)	See WARNINGS Broadleaf weeds	2-3L / ha	Use 2L/ ha before beans have reached the second trifoliolate leaf stage, thereafter up to 3L/ ha may be sprayed. Do not spray before the first trifoliolate leaf is fully expanded. BASAGRAN® may cause transient scorch on beans that can be prolonged with the later applications, but will have no depressing effect on the yields. * Note: Green beans must not be sprayed under weather conditions with a very high sun intensity, with more than 2L/ ha BASAGRAN® , as higher rates may cause crop damage.
	Yellow nutsedge	3L/ ha	Refer to NOTE 1 Yellow nutsedge control . The rate of 3L/ ha must not be exceeded as higher rates may cause crop damage.
LAWNS	Yellow nutsedge	80ml/ 100m ²	For control of yellow nutsedge, apply 80ml in a convenient volume of water to cover 100m ² . Do not mow for at least four days before application and at least four days after application. The lawn should be well watered and fertilized in advance so that the weeds are growing actively
MAIZE, SORGHUM, OATS, WHEAT, BARLEY, RICE, SUGARCANE, and other grass crops	Broadleaf weeds	3.0L /ha	BASAGRAN® may be sprayed on cereals at any stage of their development, provided that weed growth corresponds to the growth stage as listed in the APPLICATION TABLE .
	Yellow nutsedge	3-5L /ha	For information refer to NOTE 1 Yellow nutsedge control .
GROUNDNUTS See WARNINGS	Broadleaf weeds	2-3L /ha	Apply BASAGRAN® from the first trifoliolate leaf stage onwards. A second application may be made if there are problems with late germinating weeds.
	Yellow nutsedge	3-5L/ha	For information refer to NOTE 1 Yellow nutsedge control .





SOYABEANS See WARNINGS	Broadleaf weeds	2-3 L/ha	Apply BASAGRAN ® from the second trifoliolate leaf on wards. A second application may be made if there are problems with late germinating weeds. BASAGRAN ® may cause transient scorch on soyabeans that can be prolonged with the later applications but will not have a depressing effect on yields. The rate of 3.0L/ha must not be exceeded as higher rates can cause
	Yellow nutsedge	3L/ ha	Refer to NOTE 1 Yellow nutsedge control . The rate of 3L/ha per application must not be exceeded as higher rates can cause crop damage.

CROP	Weed type	DOSAGE	REMARKS
PEAS	Broadleaf weeds	3.0 L/ ha	BASAGRAN ® may be sprayed on peas when they are 50-150mm high, provided that weed growth corresponds to the growth stage as listed in the APPLICATION TABLE . Do not use BASAGRAN ® on frost-damaged peas and/or if crop is under stress (cold, drought) or if frost is expected.
	Yellow nutsedge	3.0 L/ha	For information refer to NOTE 1 Yellow nutsedge control . The rate of 3L/ha per application must not be exceeded as higher rates can cause crop damage.

APPLICATION TABLE for BASAGRAN® + atrazine

CROP	SOIL TYPE	DOSAGE L / HA	REMARKS
MAIZE Broadleaf weeds	All types	2L BASAGRAN ® + 2L Atrazine 500g/L	Apply recommended mixture for better control of Pigweed, Mexican richardia, Dwarf marigold and Common dubbeltjie. Refer to WARNINGS on this label and USE RESTRICTIONS on the Atrazine label.
GRAIN SORGHUM Broadleaf weeds	Only on soils with more than 16% clay	2L BASAGRAN ® + 2L atrazine 500 g/L	





WEEDS CONTROLLED BY BASAGRAN®

BOTANICAL NAME	COMMON NAME	NOTE NUMBER	LEAF STAGE
<i>Acanthospermum hispidum</i>	Upright starbur	NOTE 2	8
<i>Argemone subfusiformis</i>	Mexican poppy		6
<i>Bidens pilosa</i>	Common blackjack	NOTE 2	6
<i>Chenopodium album</i>	White goosefoot		4
<i>Cleome monophylla</i>	Single-leaved cleome		6
<i>Commelina benghalensis</i>	Wondering jew	NOTE3	4
<i>Datura stramonium</i>	Common thorn apple	NOTE 2	8
<i>Datura ferox</i>	Large thorn apple	NOTE 2	8
<i>Galinsoga parviflora</i>	Small-flowered quickweed		6
<i>Hibiscus trionum</i>	Bladder hibiscus		6
<i>Ipomoea purpurea</i>	Morning glory		4
<i>Nicandra physaloides</i>	Apple of Peru	NOTE 2	6
<i>Portulaca oleracea</i>	Common purslane		6
<i>Raphanus raphanistrum</i>	Wild radish		6
<i>Richardia brasiliensis</i>	Mexican richardia	NOTE 3	2
<i>Schkuhria pinnata</i>	Dwarf marigold	NOTE 3	4
<i>Senecio consanguineus</i>	Rag wort		6
<i>Sida spinosa</i>	Sida		6
<i>Tagetes minuta</i>	Tall khaki weed		6
<i>Tribulus terrestris</i>	Common dubbeltjie	NOTE 3	6
<i>Xanthium strumarium</i>	Large cockle bur	NOTE 2	6





**ADDITIONAL WEEDS CONTROLLED BY A TANK MIXTURE OF BASAGRAN® + ATRAZINE
500 g / l SC**

ONLY MAIZE AND GRAIN SORGHUM		DOSAGE 2L/ha + 2L/ha
BOTANICAL NAME	COMMON NAME	LEAF STAGE
<i>Amaranthus deflexus</i>	Pigweed	4
<i>Amaranthus hybrids</i>	Cape pigweed	4
<i>Amaranthus spinosus</i>	Thorny pigweed	4

CONTROL OF THE FOLLOWING WEEDS WILL BE IMPROVED BY THE TANK MIXTURE

ONLY MAIZE AND GRAIN SORGHUM		DOSAGE 2L/ha + 2L/ha
BOTANICAL NAME	COMMON NAME	LEAF STAGE
<i>Richardia brasiliensis</i>	Mexican richardia	4
<i>Schkuhria pinnata</i>	Dwarf marigold	4
<i>Tribulus terrestris</i>	Common dubbeltjie	4





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Reg. No 92-C-84-3

NET VOLUME:

5 LITRES



POISON
AVOID BREATHING VAPOUR

Composition:

Active ingredient: bendioxide

Inert ingredient:

Chemical Group: Thiasdiasine

(mass / vol)
480g /L
520g /L

A WATER SOLUBLE SOLUTION CONTACT HERBICIDE FOR THE POST-EMERGENCE CONTROL OF CERTAIN BROADLEAF WEEDS AND YELLOW NUTSEdge IN BEANS, GROUNDNUTS, SOYABEANS, PEAS, MAIZE, SORGHUM, SMALL GRAIN, SUGARCANE AND OTHER CROPS.

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Safety data sheet

Page: 1/12

BASF Safety data sheet according to Regulation (EC) No. 1907/2006

Date / Revised: 03.02.2012

Version: 3.0

Product: **BASAGRAN**

(ID no. 30035190/SDS_CPA_EU/EN)

Date of print 04.02.2012

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

Product identifier

BASAGRAN

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

Relevant identified uses: crop protection product, herbicide

Recommended use: 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:
Warning

Hazard Statement:

H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
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):

P280f	Wear protective gloves and eye/face protection.
P261c	Avoid breathing mist.
P264	Wash with plenty of water and soap thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P272	Contaminated work clothing should not be allowed out of the workplace.

Precautionary Statements (Response):

P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P363	Wash contaminated clothing before reuse.
P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330	Rinse mouth.

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: BENTAZONE-SODIUM

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

EEC Directives

Hazard symbol(s)

Xn Harmful.



R-phrases(s)

R22	Harmful if swallowed.
R43	May cause sensitization by skin contact.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

BASF Safety data sheet according to Regulation (EC) No. 1907/2006

Date / Revised: 03.02.2012

Version: 3.0

Product: **BASAGRAN**

(ID no. 30035190/SDS_CPA_EU/EN)

Date of print 04.02.2012

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.
S24	Avoid contact with skin.
S37	Wear suitable gloves.
S46	If swallowed, seek medical advice immediately and show this container or label.

| Hazard determining component(s) for labelling: BENTAZONE-SODIUM**Classification of the substance or mixture**According to Regulation (EC) No 1272/2008 [CLP]**|** Acute Tox. 4 (oral)
| Eye Dam./Irrit. 2
Skin Sens. 1B
| Aquatic Chronic 3According to Directive 67/548/EEC or 1999/45/EC

Possible Hazards:

Harmful if swallowed.

May cause sensitization by skin contact.

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

See section 12 - Results of PBT and vPvB assessment.

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

3. Composition/Information on Ingredients**Mixtures**Chemical nature

crop protection product, herbicide, Soluble concentrate (SL)

Contains: bentazone
as Bentazone Sodium saltHazardous ingredients (GHS)

according to Regulation (EC) No. 1272/2008

BASF Safety data sheet according to Regulation (EC) No. 1907/2006

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(ID no. 30035190/SDS_CPA_EU/EN)

Date of print 04.02.2012

bentazone-sodium**Content (W/W): 44 %**
CAS Number: 50723-80-3
EC-Number: 256-735-4**Acute Tox. 4 (oral)**
Skin Sens. 1B
Eye Dam./Irrit. 2
H302, H319, H317Hazardous ingredients

according to Directive 1999/45/EC

bentazone-sodium**Content (W/W): 44 %**
CAS Number: 50723-80-3
EC-Number: 256-735-4
Hazard symbol(s): Xn
R-phrases(s): 22, 43

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**Remove contaminated clothing.**

If inhaled:

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

On skin contact:

Wash thoroughly with soap and water.

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.**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.

Indication of any immediate medical attention and special treatment needed

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

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, Carbon dioxide, nitrogen oxides, sulfur oxides

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:

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. In case of fire and/or explosion do not breathe fumes. Keep containers cool by spraying with water if exposed to fire.

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

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:

No special precautions necessary. The substance/product is non-combustible. Product is not explosive.

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.

BASF Safety data sheet according to Regulation (EC) No. 1907/2006

Date / Revised: 03.02.2012

Version: 3.0

Product: **BASAGRAN**

(ID no. 30035190/SDS_CPA_EU/EN)

Date of print 04.02.2012

Storage stability:

Storage duration: 60 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.

8. Exposure Controls/Personal Protection

Control parameters

Components with workplace control parameters

50723-80-3: 3-Isopropyl-1H-2,1,3-benzothiadiazin-4(3H)-one 2,2-dioxide, sodium salt

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 to red
Odour:	fruity, faint odour
Odour threshold:	not determined

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pH value:	approx. 6 - 7 (CIPAC standard water D, 1 %(m), 20 °C)	
Melting point:	approx. 0 °C (1,013.3 hPa)	
Boiling point:	Information applies to the solvent. approx. 100 °C (1,013.3 hPa) Information applies to the solvent.	
Flash point:	No flash point - Measurement made up to the boiling point.	(DIN EN 22719; ISO 2719)
Evaporation rate:	not applicable	
Flammability:	not self-igniting	
Lower explosion limit:	not determined	
Upper explosion limit:	not determined	
Ignition temperature:	555 °C	(Directive 92/69/EEC, A.15)
Vapour pressure:	The product has not been tested.	
Density:	approx. 1.19 g/cm ³ (20 °C)	(OECD Guideline 109)
Relative vapour density (air):	not determined	
Solubility in water:	fully soluble	
<i>Information on: bentazone</i>		
<i>Partitioning coefficient n-octanol/water (log Kow): 0.77</i> <i>(22 °C; pH value: 5)</i>		

Thermal decomposition:	not determined	
Viscosity, dynamic:	approx. 9 mPa.s (20 °C, 100 1/s)	(OECD 114)
Explosion hazard:	not explosive	
Fire promoting properties:	not fire-propagating	(Directive 2004/73/EC, A.21)

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:

Of moderate toxicity after single ingestion. Virtually nontoxic after a single skin contact. Virtually nontoxic by inhalation.

Experimental/calculated data:

LD50 rat (oral): > 1,000 - < 2,000 mg/kg (OECD Guideline 401)

LC50 rat (by inhalation): > 4.8 mg/l 4 h (OECD Guideline 403)

An aerosol was tested.

LD50 rat (dermal): > 4,000 mg/kg (OECD Guideline 402)

Irritation

Assessment of irritating effects:

May cause slight irritation to the eyes. Not irritating to the skin.

Experimental/calculated data:

Skin corrosion/irritation rabbit: non-irritant

Serious eye damage/irritation rabbit: Slightly irritating.

Respiratory/Skin sensitization

Assessment of sensitization:

Sensitization after skin contact possible. The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: bentazone

Experimental/calculated data:

| *Guinea pig maximization test guinea pig: skin sensitizing (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. The results of various animal studies gave no indication of a carcinogenic effect.

Reproductive toxicity**Assessment of reproduction toxicity:**

The product has not been tested. The statement has been derived from the properties of the individual components. The results of animal studies gave no indication of 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. Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

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.

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) > 100 mg/l, *Oncorhynchus mykiss* (OECD Guideline 203)

Aquatic invertebrates:

LC50 (48 h) > 100 mg/l, *Daphnia magna* (OECD Guideline 202, part 1)

Aquatic plants:

EC50 (7 d) 30.5 mg/l, *Lemna gibba* (OECD guideline 221)

Chronic toxicity to fish:

No observed effect concentration (28 d) > 100 mg/l

Chronic toxicity to aquatic invertebrates:

No observed effect concentration, > 250 mg/l

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: bentazone

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: bentazone

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: bentazone

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

Air transport

IATA/ICAO

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.
22	Harmful if swallowed.
43	May cause sensitization by skin contact.
Acute Tox.	Acute toxicity
Eye Dam./Irrit.	Serious eye damage/eye irritation
Skin Sens.	Skin sensitization
Aquatic Chronic	Hazardous to the aquatic environment - chronic
H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.

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.