



**RONSTAR EC 25**

Version 6 / EU  
102000011515

1/11  
Revision Date: 03.10.2016  
Print Date: 17.10.2017

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

**1.1 Product identifier**

**Trade name** RONSTAR EC 25  
**Product code (UVP)** 06425844

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

**Use** Herbicide

**1.3 Details of the supplier of the safety data sheet**

**Supplier** Bayer AG  
Kaiser-Wilhelm-Allee 1  
51373 Leverkusen  
Germany  
**Telefax** +49(0)2173-38-7394  
**Responsible Department** Substance Classification & Registration  
+49(0)2173-38-3409 (during business hours only)  
Email: BCS-SDS@bayer.com

**1.4 Emergency telephone no.**

**Emergency telephone no.** Global Incident Response Hotline (24h)  
+1 (760) 476-3964 (Company 3E for Bayer AG, Crop Science Division)

**SECTION 2: HAZARDS IDENTIFICATION**

**2.1 Classification of the substance or mixture**

**Classification in accordance with Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, as amended.**

Flammable liquids: Category 3  
H226 Flammable liquid and vapour.

Aspiration hazard: Category 1  
H304 May be fatal if swallowed and enters airways.

Skin irritation: Category 2  
H315 Causes skin irritation.

Eye irritation: Category 2  
H319 Causes serious eye irritation.

Specific target organ toxicity - single exposure: Category 3  
H336 May cause drowsiness or dizziness.

Acute aquatic toxicity: Category 1  
H400 Very toxic to aquatic life.

Chronic aquatic toxicity: Category 1  
H410 Very toxic to aquatic life with long lasting effects.

**2.2 Label elements**

**Labelling in accordance with Regulation (EC) No 1272/2008 on classification, labelling and**



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|| **packaging of substances and mixtures, as amended.**

|| Hazard label for supply/use required.

**Hazardous components which must be listed on the label:**

- Oxadiazon
- 2-Methylpropan-1-ol
- Solvent Naphtha (petroleum), heavy aromatic



|| **Signal word:** Danger

**Hazard statements**

- H226 Flammable liquid and vapour.  
 H304 May be fatal if swallowed and enters airways.  
 H315 Causes skin irritation.  
 H319 Causes serious eye irritation.  
 H336 May cause drowsiness or dizziness.  
 H410 Very toxic 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**

- P240 Ground/bond container and receiving equipment.  
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
 P308 + P311 IF exposed or concerned: Call a POISON CENTER/ doctor/ physician.  
 P501 Dispose of contents/container in accordance with local regulation.

**2.3 Other hazards**

No other hazards known.

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

**3.2 Mixtures**

**Chemical nature**

Emulsifiable concentrate (EC)  
Oxadiazon 250 g/l

**Hazardous components**

Hazard statements according to Regulation (EC) No. 1272/2008

Name	CAS-No. / EC-No. / REACH Reg. No.	Classification	Conc. [%]
		REGULATION (EC) No 1272/2008	
Oxadiazon	19666-30-9 243-215-7	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	25,40
Benzenesulfonic acid, mono-C11-13-branched	68953-96-8 273-234-6	Acute Tox. 4, H312 Skin Irrit. 2, H315	> 1,00 – < 5,00

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alkyl derivs., calcium salts		Eye Dam. 1, H318 Aquatic Chronic 2, H411	
2-Methylpropan-1-ol	78-83-1 201-148-0	Flam. Liq. 3, H226 STOT SE 3, H335 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H336	> 1,00 – < 5,00
Ethoxylated polyarylphenol	99734-09-5	Aquatic Chronic 3, H412	> 1,00 – < 25,00
Cyclohexanone	108-94-1 203-631-1	Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Dam. 1, H318 Flam. Liq. 3, H226	> 1,00 – < 25,00
Solvent Naphtha (petroleum), heavy aromatic	64742-94-5 265-198-5 01-2119463583-34-xxxx	Asp. Tox. 1, H304 STOT SE 3, H336 Aquatic Chronic 2, H411	> 25,00

**Further information**

Substances for which there are Community workplace exposure limits:  
Cyclohexanone (108-94-1)

For the full text of the H-Statements mentioned in this Section, see Section 16.

**SECTION 4: FIRST AID MEASURES****4.1 Description of first aid measures****General advice**

Move out of dangerous area. Remove contaminated clothing immediately and dispose of safely. When symptoms persist or in all cases of doubt seek medical advice.

**Inhalation**

Move the victim to fresh air and keep at rest. If symptoms persist, call a physician.

**Skin contact**

Wash off thoroughly with plenty of soap and water, if available with polyethyleneglycol 400, subsequently rinse with water. If symptoms persist, call a physician.

**Eye contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control center immediately.

**Ingestion**

Rinse mouth. Keep at rest. Do NOT induce vomiting. Call a physician or poison control center immediately.

**4.2 Most important symptoms and effects, both acute and delayed****Symptoms**

Local:, To date no symptoms are known.

Systemic:, To date no symptoms are known.

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



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<b>Risks</b>	Contains hydrocarbon solvents. May pose an aspiration pneumonia hazard.
<b>Treatment</b>	Local treatment: Initial treatment: symptomatic. Systemic treatment: Initial treatment: symptomatic. Gastric lavage is not normally required. However, if a significant amount (more than a mouthful) has been ingested, administer activated charcoal and sodium sulphate. There is no specific antidote.

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**SECTION 5: FIREFIGHTING MEASURES**

**5.1 Extinguishing media**

**Suitable** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Unsuitable** High volume water jet

**5.2 Special hazards arising from the substance or mixture** Dangerous gases are evolved in the event of a fire.

**5.3 Advice for firefighters**

**Special protective equipment for firefighters** In the event of fire and/or explosion do not breathe fumes. In the event of fire, wear self-contained breathing apparatus.

**Further information** Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure being built up due to heat. Whenever possible, contain fire-fighting water by diking area with sand or earth.

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**SECTION 6: ACCIDENTAL RELEASE MEASURES**

**6.1 Personal precautions, protective equipment and emergency procedures**

**Precautions** Avoid contact with spilled product or contaminated surfaces. Keep people away from and upwind of spill/leak. Use personal protective equipment. When dealing with a spillage do not eat, drink or smoke.

**6.2 Environmental precautions** Do not allow to get into surface water, drains and ground water.

**6.3 Methods and materials for containment and cleaning up**

**Methods for cleaning up** Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Clean floors and contaminated objects with plenty of water.

**Additional advice** Check also for any local site procedures.

**6.4 Reference to other sections** Information regarding safe handling, see section 7.  
Information regarding personal protective equipment, see section 8.  
Information regarding waste disposal, see section 13.

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<b>Advice on safe handling</b>	No specific precautions required when handling unopened packs/containers; follow relevant manual handling advice. Ensure adequate ventilation.
<b>Advice on protection against fire and explosion</b>	Keep away from heat and sources of ignition. Vapours may form explosive mixture with air. Take measures to prevent the build up of electrostatic charge. Use only explosion-proof equipment.
<b>Hygiene measures</b>	Avoid contact with skin, eyes and clothing. Remove soiled clothing immediately and clean thoroughly before using again. Keep working clothes separately. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.

**7.2 Conditions for safe storage, including any incompatibilities**

<b>Requirements for storage areas and containers</b>	Store in a place accessible by authorized persons only. Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from freezing. Keep away from direct sunlight.
<b>Advice on common storage</b>	Keep away from food, drink and animal feedingstuffs.
<b>Suitable materials</b>	Coex HDPE/EVOH Black mild steel sheet with interior coating
<b>7.3 Specific end use(s)</b>	Refer to the label and/or leaflet.

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION****8.1 Control parameters**

Components	CAS-No.	Control parameters	Update	Basis
Oxadiazon	19666-30-9	0,28 mg/m <sup>3</sup> (TWA)		OES BCS*
Cyclohexanone	108-94-1	40,8 mg/m <sup>3</sup> /10 ppm (TWA)	12 2009	EU ELV
Cyclohexanone	108-94-1	81,6 mg/m <sup>3</sup> /20 ppm (STEL)	12 2009	EU ELV
Cyclohexanone	108-94-1	40,8 mg/m <sup>3</sup> /10 ppm (TWA)	2014	EU SCOELS
Cyclohexanone	108-94-1	81,6 mg/m <sup>3</sup> /20 ppm (STEL)	2014	EU SCOELS

\*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

**8.2 Exposure controls****Personal protective equipment**

In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the

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following recommendations would apply.

**Respiratory protection**

Wear respirator with an organic vapours and gas filter mask (protection factor 10) conforming to EN140 type A or equivalent. Respiratory protection should only be used to control residual risk of short duration activities, when all reasonably practicable steps have been taken to reduce exposure at source e.g. containment and/or local extract ventilation. Always follow respirator manufacturer's instructions regarding wearing and maintenance.

**Hand protection**

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

Wash gloves when contaminated. Dispose of when contaminated inside, when perforated or when contamination on the outside cannot be removed. Wash hands frequently and always before eating, drinking, smoking or using the toilet.

Material	Nitrile rubber
Rate of permeability	> 480 min
Glove thickness	> 0,4 mm
Protective index	Class 6
Directive	Protective gloves complying with EN 374.

**Eye protection**

Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).

**Skin and body protection**

Wear standard coveralls and Category 3 Type 6 suit. If there is a risk of significant exposure, consider a higher protective type suit.

Wear two layers of clothing wherever possible. Polyester/cotton or cotton overalls should be worn under chemical protection suit and should be professionally laundered frequently.

If chemical protection suit is splashed, sprayed or significantly contaminated, decontaminate as far as possible, then carefully remove and dispose of as advised by manufacturer.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES****9.1 Information on basic physical and chemical properties**

<b>Form</b>	Liquid
<b>Colour</b>	brown
<b>Odour</b>	aromatic
<b>Flash point</b>	55 °C
<b>Ignition temperature</b>	> 450 °C The data refer to solvent naphtha petroleum.
<b>Density</b>	ca. 0,99 g/cm <sup>3</sup> at 20 °C
<b>Water solubility</b>	miscible
<b>Partition coefficient: n-octanol/water</b>	Cyclohexanone: log Pow: 0,81



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**9.2 Other information** Further safety related physical-chemical data are not known.

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**SECTION 10: STABILITY AND REACTIVITY**

**10.1 Reactivity**

**Thermal decomposition** Stable under normal conditions.

**10.2 Chemical stability** Stable under recommended storage conditions.

**10.3 Possibility of hazardous reactions** No hazardous reactions when stored and handled according to prescribed instructions.

**10.4 Conditions to avoid** Extremes of temperature and direct sunlight.

**10.5 Incompatible materials** Store only in the original container.

**10.6 Hazardous decomposition products** No decomposition products expected under normal conditions of use.

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**SECTION 11: TOXICOLOGICAL INFORMATION**

**11.1 Information on toxicological effects**

**Acute oral toxicity** LD50 (Rat) > 2.000 mg/kg

**Acute inhalation toxicity** LC50 (Rat) > 5,04 mg/l  
Exposure time: 4 h

**Acute dermal toxicity** LD50 (Rat) > 2.000 mg/kg

**Skin irritation** Irritating to skin. (Rabbit)

**Eye irritation** Irritating to eyes. (Rabbit)

**Sensitisation** Non-sensitizing. (Guinea pig)  
OECD Test Guideline 406, Buehler test

**Assessment STOT Specific target organ toxicity – repeated exposure**

Oxadiazon caused specific target organ toxicity in experimental animal studies in the following organ(s): Liver, Blood. The observed effects do not appear to be relevant for humans.  
Cyclohexanone did not cause specific target organ toxicity in experimental animal studies.

**Assessment mutagenicity**

Oxadiazon was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.  
Cyclohexanone was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

**Assessment carcinogenicity**

Oxadiazon caused at high dose levels an increased incidence of tumours in in the following organ(s): Liver. The mechanism that triggers tumours in rodents and the type of tumours observed are not relevant to humans.  
Cyclohexanone is not considered carcinogenic.

**RONSTAR EC 25**Version 6 / EU  
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Oxadiazon caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Oxadiazon is related to parental toxicity. Cyclohexanone did not cause reproductive toxicity in a two-generation study in rats.

**Assessment developmental toxicity**

Oxadiazon caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Oxadiazon are related to maternal toxicity. Cyclohexanone did not cause developmental toxicity in rats and rabbits.

**Aspiration hazard**

May be fatal if swallowed and enters airways.

**Further information**

The toxicological data refer to a similar formulation.

**SECTION 12: ECOLOGICAL INFORMATION****12.1 Toxicity**

<b>Toxicity to fish</b>	LC50 (Oncorhynchus mykiss (rainbow trout)) 1,2 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient oxadiazon.
<b>Toxicity to aquatic invertebrates</b>	EC50 (Daphnia magna (Water flea)) > 2,4 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient oxadiazon.
<b>Toxicity to aquatic plants</b>	EC50 (Desmodesmus subspicatus (green algae)) 0,028 mg/l Biomass; Exposure time: 72 h Test conducted with a similar formulation.

**12.2 Persistence and degradability**

<b>Biodegradability</b>	Oxadiazon: Not rapidly biodegradable Cyclohexanone: rapidly biodegradable
<b>Koc</b>	Oxadiazon: Koc: 1294 Cyclohexanone: Koc: 15,15

**12.3 Bioaccumulative potential**

<b>Bioaccumulation</b>	Oxadiazon: Bioconcentration factor (BCF) 243 Does not bioaccumulate. Cyclohexanone: Bioconcentration factor (BCF) 129 Does not bioaccumulate.
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**12.4 Mobility in soil**

<b>Mobility in soil</b>	Oxadiazon: Slightly mobile in soils Cyclohexanone: Mobile in soils
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**12.5 Results of PBT and vPvB assessment**

**PBT and vPvB assessment** Oxadiazon: This substance is not considered to be persistent,

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bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).  
Cyclohexanone: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).

**12.6 Other adverse effects**

**Additional ecological information** No other effects to be mentioned.

**SECTION 13: DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods**

**Product** In accordance with current regulations and, if necessary, after consultation with the site operator and/or with the responsible authority, the product may be taken to a waste disposal site or incineration plant.

**Contaminated packaging** Triple rinse containers.  
Do not re-use empty containers.  
Not completely emptied packagings should be disposed of as hazardous waste.

**Waste key for the unused product** **02 01 08\*** agrochemical waste containing dangerous substances

**SECTION 14: TRANSPORT INFORMATION****ADR/RID/ADN**

14.1 UN number **1993**  
14.2 Proper shipping name **FLAMMABLE LIQUID, N.O.S.  
(OXADIAZON, CYCLOHEXANONE SOLUTION)**  
14.3 Transport hazard class(es) **3**  
14.4 Packing group **III**  
14.5 Environm. Hazardous Mark **YES**  
Hazard no. **30**  
Tunnel Code **D/E**  
Special Provision **640E**

This classification is in principle not valid for carriage by tank vessel on inland waterways. Please refer to the manufacturer for further information.

**IMDG**

14.1 UN number **1993**  
14.2 Proper shipping name **FLAMMABLE LIQUID, N.O.S.  
(OXADIAZON, CYCLOHEXANONE SOLUTION)**  
14.3 Transport hazard class(es) **3**  
14.4 Packing group **III**  
14.5 Marine pollutant **YES**

**IATA**

14.1 UN number **1993**



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EINECS	European inventory of existing commercial substances
ELINCS	European list of notified chemical substances
EN	European Standard
EU	European Union
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code)
ICx	Inhibition concentration to x %
IMDG	International Maritime Dangerous Goods
LCx	Lethal concentration to x %
LDx	Lethal dose to x %
LOEC/LOEL	Lowest observed effect concentration/level
MARPOL	MARPOL: International Convention for the prevention of marine pollution from ships
N.O.S.	Not otherwise specified
NOEC/NOEL	No observed effect concentration/level
OECD	Organization for Economic Co-operation and Development
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
TWA	Time weighted average
UN	United Nations
WHO	World health organisation

The information contained within this Safety Data Sheet is in accordance with the guidelines established by Regulation (EU) 1907/2006 and Regulation (EU) 2015/830 amending Regulation (EU) No 1907/2006 and any subsequent amendments. This data sheet complements the user's instructions, but does not replace them. The information it contains is based on the knowledge available about the product concerned at the time it was compiled. Users are further reminded of the possible risks of using a product for purposes other than those for which it was intended. The required information complies with current EEC legislation. Addressees are requested to observe any additional national requirements.

**Reason for Revision:** Safety Data Sheet according to Regulation (EU) No. 2015/830.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.