

HERBICIDE

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY OR UNDERTAKING

IDENTIFICATION OF THE SUBSTANCE OR PREPARATION

Tradename **DEFY**
 Design Code **A8545G**
 AGI Code **34077**

COMPANY/UNDERTAKING IDENTIFICATION

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2. COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS COMPONENTS

CAS NO.	EC-NO.	CHEMICAL NAME	CONCENTRATION (%W/W)	HAZARD SYMBOLS	RISK PHRASES (R)
52888-80-9	401-730-6	prosulfocarb	78.4	Xn, N	22, 43, 50/53
26264-06-2	247-557-8	benzenesulphonic acid, dodecyl-, calcium salt	5-10	Xi	10, 36/38
68459-87-0	–	oxirane, methyl-, polymer with oxirane, monobutyl ether	0-5	Xi	36/38
64742-95-6	265-199-0	solvent naphtha (petroleum), light arom.	5-15	Xn, N	10, 37, 51/53, 65, 66, 67

For the full text of the R phrases mentioned in this section, see section 16.

3. HAZARDS IDENTIFICATION

May cause sensitisation by skin contact. Irritating to skin. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4. FIRST AID MEASURES

General advice: Have the product container, label or Material Safety Data Sheet with you when calling the Syngenta emergency number, a Poison Control Centre or physician, or going for treatment.

Inhalation: Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Keep patient warm and at rest. Call a physician or Poison Control Centre immediately.

Skin contact: Take off all contaminated clothing immediately. Wash off immediately with plenty of water. If skin irritation persists, call a physician. Wash contaminated clothing before re-use.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.

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Ingestion: If swallowed, seek medical advice immediately and show this container or label. Do not induce vomiting.

Medical advice: There is no specific antidote available. Treat symptomatically.

5. FIRE FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA

Extinguishing media – small fires: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Extinguishing media – large fires: Alcohol-resistant foam, water spray.

Extinguishing media which must not be used for safety reasons: Do not use a solid water stream as it may scatter and spread fire.

Specific hazards during fire fighting: As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10). Exposure to decomposition products may be a hazard to health. Flashback possible over considerable distance.

Special protective equipment for fire fighters: In the event of fire, wear self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Refer to protective measures listed in sections 7 and 8. Keep people away from and upwind of spill/leak. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. Remove all sources of ignition. Pay attention to flashback.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.

Methods for cleaning up: Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local/national regulations (see section 13).

Additional advice: If the product contaminates rivers and lakes or drains inform respective authorities.

7. HANDLING AND STORAGE

HANDLING

Advice on safe handling: Avoid contact with skin and eyes. When using do not eat, drink or smoke. Take precautionary measures against static discharges. Use only in an area containing flame proof equipment. For personal protection see section 8.

STORAGE

Requirements for storage areas and containers: Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feed. Keep away from heat and sources of ignition. Keep away from combustible material. Keep in an area equipped with sprinklers. No smoking.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

COMPONENTS WITH WORKPLACE CONTROL PARAMETERS

Components	Exposure limit(s)	Value type	Source
solvent naphtha (petroleum), light arom.	100 mg/m ³	8 h TWA	SUPPLIER
sulfocarb	4 mg/m ³	8 h TWA	SYNGENTA

ENGINEERING MEASURES

Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated. The extent of these protection measures depends on the actual risks in use. If airborne mists or vapours are generated, use local exhaust ventilation controls. Assess exposure and use any additional measures to keep airborne levels below any relevant exposure limit.

Where necessary, seek additional occupational hygiene advice.

PERSONAL PROTECTIVE EQUIPMENT

When using this product refer to the label for details. In all other cases, use the following Personal Protective Equipment:

Protective measures: The use of technical measures should always have priority over the use of personal protective equipment. When selecting personal protective equipment, seek appropriate professional advice. Personal protective equipment should be certified to appropriate standards.

Respiratory protection: A particulate filter respirator may be necessary until effective technical measures are installed. Protection provided by air-purifying respirators is limited. Use a self-contained breathing apparatus in cases of emergency spills, when exposure levels are unknown, or under any circumstances where air-purifying respirators may not provide adequate protection.

Hand protection: Chemical resistant gloves should be used. Gloves should be certified to an appropriate standard. Gloves should have a minimum breakthrough time that is appropriate to the duration of exposure. The breakthrough time of gloves varies according to the thickness, material and manufacturer. Gloves should be changed when breakthrough is suspected. Suitable material: nitrile rubber.

Eye protection: Eye protection is not usually required. Follow any site specific eye protection policies. Eye/face protection should be certified to EN 166.

Skin and body protection: Assess the exposure and select chemical resistant clothing based on the potential for contact and the permeation/penetration characteristics of the clothing material. Wash with soap and water after removing protective clothing. Decontaminate clothing before re-use, or use disposable equipment (suits, aprons, sleeves, boots, etc.). Wear as appropriate: impervious protective suit.

9. PHYSICAL AND CHEMICAL PROPERTIES

Colour:	Yellowish
Form:	Liquid
Odour:	Aromatic
Flash-Point:	64°C
Oxidising Properties:	Not oxidising.
Explosive Properties:	Not explosive.
Density:	1.021 g/cm ³
pH Value:	6–8 at 1% w/v

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Water Solubility:	Miscible
Surface Tension:	31–33 mN/m at 20°C
Kinematic Viscosity:	8–9 mm ² /s

10. STABILITY AND REACTIVITY

Hazardous decomposition products: Combustion or thermal decomposition will evolve toxic and irritant vapours.

Hazardous reactions: None known. Hazardous polymerisation does not occur. Stable under normal conditions.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY (LETHAL DOSES)

Oral rat LD₅₀: >2,000 mg/kg (both genders)

Dermal rabbit LD₅₀: >4,000 mg/kg

ACUTE TOXICITY (IRRITATION, SENSITISATION, ETC.)

Eye Irritation, Rabbit: Moderate eye irritation.

Skin Irritation, Rabbit: Mild skin irritation.

Skin Sensitisation, Buehler Test, Guinea Pig: Causes sensitisation.

LONG-TERM TOXICITY: Did not show carcinogenic, teratogenic or mutagenic effects in animal experiments.

12. ECOLOGICAL INFORMATION

ELIMINATION INFORMATION (PERSISTENCE AND DEGRADABILITY)

Bioaccumulation: Prosulfocarb bioaccumulates.

Stability in water: Prosulfocarb is persistent in water.

Stability in soil: Prosulfocarb is not persistent in soil.

Mobility: Prosulfocarb has slight mobility in soil.

ECOTOXICITY EFFECTS

Toxicity to Fish: LC₅₀ 96 hours rainbow trout: 2.3 mg/l.

Toxicity to Daphnia: EC₅₀ 48 hours *Daphnia magna* (water flea), 2.2 mg/l.

Toxicity to Algae: EbC₅₀ 96 hours: *Pseudokirchneriella subcapitata* (green algae), 110 µg/l.

Toxicity to Algae: ErC₅₀ 96 hours: *Pseudokirchneriella subcapitata* (green algae), 200 µg/l.

13. DISPOSAL CONSIDERATIONS

Product: Do not contaminate ponds, waterways or ditches with chemical or used container. Do not dispose of waste into sewer. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations.

Contaminated packaging: Empty remaining contents. Triple rinse containers. Empty containers should be taken for local recycling or waste disposal. Do not re-use empty containers.

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14. TRANSPORT INFORMATION

RAIL/ROAD/SEA/AIR (RID/ADR/IMDG/IATA)	Class	UN number	Packaging group
	9	3082	III
Proper Shipping Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (PROSULFOCARB AND AROMATIC HYDROCARBONS)		
Marine pollutant:	Yes		

15. REGULATORY INFORMATION**Labelling according to EC Directives**

Hazardous components which must be listed on the label: prosulfocarb.

Hazard Symbols/ Classifications	Xi	IRRITANT
Risk phrases (R)	N	DANGEROUS FOR THE ENVIRONMENT
	38	Irritating to skin.
	43	May cause sensitisation by skin contact.
	50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Safety phrases (S)	2	Keep out of reach of children.
	13	Keep away from food, drink and animal feeding stuffs.
	20/21	When using do not eat, drink or smoke.
	24	Avoid contact with skin.
	35	This material and its container must be disposed of in a safe way.
	37/39	Wear suitable gloves and eye/face protection.
	46	If swallowed, seek medical advice immediately and show this container or label.
	57	Use appropriate containment to avoid environmental contamination.
Special label	To avoid risks to man and the environment, comply with the instructions for use.	

16. OTHER INFORMATION

Always read the label. Use pesticides safely.

DPD compliant. Based upon SDS dated 09/01/2008, version 1 with local assessments.

Product approval number: MAPP 12606

H E R B I C I D E**Text of R phrases mentioned in Section 2:**

R10 Flammable.

R22 Harmful if swallowed.

R36/38 Irritating to eyes and skin.

R37 Irritating to respiratory system.

R43 May cause sensitisation by skin contact.

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.

R65 Harmful: may cause lung damage if swallowed.

R66 Repeated exposure may cause skin dryness or cracking.

R67 Vapours may cause drowsiness and dizziness.

The information provided in this 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.