STEWARD®

Version 3.1
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This SDS adheres to the standards and regulatory requirements of the European Union and may not meet the regulatory requirements in other countries.

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product information

Product name : STEWARD®

Synonyms : B10596913
: DPX-MP062 30WG

Use of the Substance/Mixture : Insecticide

Company : DuPont de Nemours South Africa (Pty) Ltd
34 Whiteley Road
Block B, 1st Floor
Melrose Arch
South Africa

Telephone : +27 11 218 8600

Telefax : +27 11 218 8664

Emergency telephone number : +27 (0)83 123 3911

E-mail address : sds-support@che.dupont.com

2. HAZARDS IDENTIFICATION

Harmful if swallowed.
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	EC-No.	Registration number	Classification	Concentration [%]
Indoxacarb (S-Enantiomer)	173584-44-6			T; R25 R43 N; R50/53	30
Lignin, alkali, reaction products with sodium bisulfite and formaldehyde	68512-35-6			Xi; R36	>= 45 - < 50
Indoxacarb, (R-enantiomer)	185608-75-7			Xn; R22 R43 N; R50/53	>= 5 - <= 10

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

4. FIRST AID MEASURES

General advice	:	Never give anything by mouth to an unconscious person.
Inhalation	:	Move to fresh air. Oxygen or artificial respiration if needed. Consult a physician.
Skin contact	:	Take off contaminated clothing and shoes immediately. Wash off immediately with soap and plenty of water. In the case of skin irritation or allergic reactions see a physician. Wash contaminated clothing before re-use.
Eye contact	:	Hold eye open and rinse slowly and gently with water for 15-20 minutes. If eye irritation persists, consult a specialist.
Ingestion	:	Obtain medical attention. DO NOT induce vomiting unless directed to do so by a physician or poison control center. If victim is conscious: Rinse mouth with water.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Water spray, Foam, Dry chemical, Carbon dioxide (CO2),
Extinguishing media which shall not be used for safety reasons	:	High volume water jet, (contamination risk),
Specific hazards during fire fighting	:	Hazardous decomposition products formed under fire conditions. Carbon dioxide (CO2) nitrogen oxides (NOx)
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus.
Further information	:	Prevent fire extinguishing water from contaminating surface water or the ground water system. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. (on small fires) If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the area contaminated. Cool containers / tanks with water spray.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	:	Control access to area. Keep people away from and upwind of spill/leak. Avoid dust formation. Avoid breathing dust. Use personal protective equipment. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Prevent further leakage or spillage if safe to do so. Use appropriate container to avoid environmental contamination. Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained. If the spill area is porous, the contaminated material must be collected for subsequent

treatment or disposal. If the product contaminates rivers and lakes or drains inform respective authorities.

Methods for cleaning up : Clean-up methods - small spillage Sweep up or vacuum up spillage and collect in suitable container for disposal.

Clean-up methods - large spillage Avoid dust formation. Contain spillage, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13).

Additional advice : Never return spills in original containers for re-use. Dispose of in accordance with local regulations.

7. HANDLING AND STORAGE

Handling

Advice on safe handling : Use only according to our recommendations. Use only clean equipment. Avoid contact with skin, eyes and clothing. Do not breathe dust or spray mist. Wear personal protective equipment. For personal protection see section 8. Prepare the working solution as given on the label(s) and/or the user instructions. Use prepared working solution as soon as possible - Do not store. Provide appropriate exhaust ventilation at places where dust is formed. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing before re-use. Avoid exceeding of the given occupational exposure limits (see section 8).

Advice on protection against fire and explosion : Keep away from heat and sources of ignition. Avoid dust formation in confined areas. During processing, dust may form explosive mixture in air.

Storage

Requirements for storage areas and containers : Store in original container. Keep in properly labelled containers. Keep containers tightly closed in a dry, cool and well-ventilated place. Store in a place accessible by authorized persons only. Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs.

Advice on common storage : No special restrictions on storage with other products.

Other data : Stable under recommended storage conditions.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering measures

Ensure adequate ventilation, especially in confined areas. Provide for appropriate exhaust ventilation and dust collection at machinery. Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection : Manufacturing and processing work: Half mask with a particle filter FFP1 (EN149)

Respiratory protection : Mixer and loaders must wear: Half mask with a particle filter FFP1 (EN149)

Respiratory protection	:	Spray application - outdoor: Half mask with a particle filter FFP1 (EN149)
Respiratory protection	:	Spray application - indoor: Half mask with a particle filter FFP1 (EN149)
Hand protection	:	Material: Nitrile rubber Glove thickness: 0,4 - 0,7 mm Glove length : Gauntlets Protection index: Class 6 Wearing time: > 480 min The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it., 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., The suitability for a specific workplace should be discussed with the producers of the protective gloves., Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough., Before removing gloves clean them with soap and water.
Eye protection	:	Safety glasses with side-shields conforming to EN166
Skin and body protection	:	Manufacturing and processing work: Full protective clothing Type 5 (EN 13982-2) Mixer and loaders must wear: Full protective clothing Type 5 + 6 (EN ISO 13982-2 / EN 13034) Rubber apron Nitrile rubber boots (EN 13832-3 / EN ISO 20345). Spray application - outdoor: Full protective clothing Type 4 (EN 14605) Nitrile rubber boots (EN 13832-3 / EN ISO 20345). Spray application - indoor: Full protective clothing Type 4 (EN 14605) Nitrile rubber boots (EN 13832-3 / EN ISO 20345).
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. Regular cleaning of equipment, work area and clothing. Keep working clothes separately. Contaminated work clothing should not be allowed out of the workplace. Wash hands and face before breaks and immediately after handling the product. When using do not eat, drink or smoke. Keep away from food, drink and animal feedingstuffs. Remove clothing/PPE immediately if material gets inside. For environmental protection remove and wash all contaminated protective equipment before re-use. Wash thoroughly and put on clean clothing. Dispose of rinse water in accordance with local and national regulations.
Protective measures	:	The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. All chemical protective clothing should be visually inspected prior to use. Clothing and gloves should be replaced in case of chemical or physical damage or if contaminated. Only protected handlers may be in the area during application.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	:	solid, dry, free flowing granules,
Colour	:	dark brown,
Odour	:	mild, woody,
pH	:	7,5 at 10 g/l (20 °C)
Melting point/range	:	Not available for this mixture.
Flash point	:	not applicable
Flammability (solid, gas)	:	Does not sustain combustion.
Autoignition temperature	:	, not auto-flammable
Oxidizing properties	:	The product is not oxidizing.
Explosive properties	:	Not explosive
Bulk density	:	800 kg/m3

10. STABILITY AND REACTIVITY

Conditions to avoid	:	To avoid thermal decomposition, do not overheat. Under severe dusting conditions, this material may form explosive mixtures in air.
Materials to avoid	:	No materials to be especially mentioned.
Hazardous decomposition products	:	Hydrogen fluoride, Hydrogen chloride gas
Hazardous reactions	:	No dangerous reaction known under conditions of normal use. Polymerization will not occur. No decomposition if stored and applied as directed.

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity	:	LD50/ ratmale: 1 876 mg/kgMethod: OECD Test Guideline 401 Information source: Internal study report (Data on the product itself) LD50/ ratfemale: 687 mg/kgMethod: OECD Test Guideline 401 Information source: Internal study report (Data on the product itself)
Acute inhalation toxicity	:	LC50/ 4 h / rat : > 5,6 mg/l Method: OECD Test Guideline 403 Information source: Internal study report (Data on the product itself)
Acute dermal toxicity	:	LD50/ rat > 5 000 mg/kg

Method: OECD Test Guideline 402
Information source: Internal study report
(Data on the product itself)

Skin irritation : rabbit
Result: No skin irritation Method: OECD Test Guideline 404 Information source: Internal study report (Data on the product itself)

Eye irritation : rabbit
Result: No eye irritation Method: OECD Test Guideline 405 Information source: Internal study report (Data on the product itself)

Sensitisation : Maximisation Test guinea pig Result: Animal test did not cause sensitization by skin contact. Method: OECD Test Guideline 406 Information source: Internal study report (Data on the product itself)

Mutagenicity assessment
Indoxacarb (S-Enantiomer) : Tests on bacterial or mammalian cell cultures did not show mutagenic effects., Did not cause genetic damage in animals.

Carcinogenicity assessment
- Indoxacarb (S-Enantiomer) : Did not show carcinogenic effects in animal experiments.

Toxicity to reproduction assessment
- Indoxacarb (S-Enantiomer) : Animal testing did not show any effects on fertility.

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)

Biodegradability : Not readily biodegradable. Estimation based on data obtained on active ingredient.

Bioaccumulation : This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

Ecotoxicity effects

Toxicity to fish : LC50/ 96 h/ Oncorhynchus mykiss (rainbow trout) :: 1,8 mg/l
Method: OECD Test Guideline 203
Information source: Internal study report (Data on the product itself)

LC50/ 96 h/ Lepomis macrochirus (Bluegill sunfish) :: 3,2 mg/l
Method: OECD Test Guideline 203
Information source: Internal study report (Data on the product itself)

Toxicity to algae : / EbC50/ 72 h/ Pseudokirchneriella subcapitata (green algae): > 1,2 mg/l
Method: OECD Test Guideline 201
Information source: Internal study report (Data on the product itself)

Toxicity to daphnia : / EC50/ 48 h/ Daphnia magna (Water flea): 1,7 mg/l
Method: OECD Test Guideline 202

Information source: Internal study report (Data on the product itself)

Chronic toxicity to fish

• Indoxacarb (S-Enantiomer) : Early Life-Stage/ NOEC/ 90 d/ Oncorhynchus mykiss (rainbow trout): 0,15 mg/l
Method:

Chronic toxicity to aquatic Invertebrates

• Indoxacarb (S-Enantiomer) : / NOEC/ 21 d/ Daphnia magna (Water flea): 1 mg/l

13. DISPOSAL CONSIDERATIONS

Product : In accordance with local and national regulations. Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities. The product should not be allowed to enter drains, water courses or the soil.

Contaminated packaging : Do not re-use empty containers.

14. TRANSPORT INFORMATION

ADR

Class:	9
Packaging group:	III
Classification Code:	M7
HI No::	90
UN number:	3077
Labelling No.:	9
Proper shipping name:	Environmentally hazardous substance, solid, n.o.s. (Indoxacarb)

IMDG

Class:	9
Packaging group:	III
UN number:	3077
Labelling No.:	9
Proper shipping name:	Environmentally hazardous substance, solid, n.o.s. (Indoxacarb)

Marine pollutant: Marine pollutant

Further information : Not classified as dangerous in the meaning of air transport regulations., Optional classification as per IATA Special Provision A97.

15. REGULATORY INFORMATION

Labelling according to EC Directives

Symbol(s) : Xn Harmful
N Dangerous for the environment

Hazardous components:		Indoxacarb (S-Enantiomer) Indoxacarb, (R-enantiomer)	
R-phrase(s)	:	R22 R51/53	Harmful if swallowed. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S-phrase(s)	:	S 2 S13 S20/21 S35 S46 S57 SP 1	Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs. When using do not eat, drink or smoke. This material and its container must be disposed of in a safe way. If swallowed, seek medical advice immediately and show this container or label. Use appropriate container to avoid environmental contamination. Do not contaminate water with the product or its container (Do not clean application equipment near surface water/Avoid contamination via drains from farmyards and roads).
Special labelling of certain mixtures	:	To avoid risks to man and the environment, comply with the instructions for use.	
Sensitising components		contains: Indoxacarb (S-Enantiomer) May produce an allergic reaction.	

16. OTHER INFORMATION

Text of R-phrases mentioned in Section 3

R22	Harmful if swallowed.
R25	Toxic if swallowed.
R36	Irritating to eyes.
R43	May cause sensitization by skin contact.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Further information

Before use read DuPont's safety information., Take notice of the directions of use on the label.

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Significant change from previous version is denoted with a double bar.

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 guide for safe handling, use, processing,

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