

MATERIAL SAFETY DATA SHEET**PROTECT[®]****1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND SUPPLIER****1.1 Identification of the substance/preparation**

Product name : **PROTECT[®]**
Chemical constituents : 2-Furan carboxaldehyde , Inerts

Active

Formula : C₅H₄O₂
CAS-no. : 98-01-1
Annex-1 no. : 605-010-00-4
EG-no. : 202-627-7
FEMA-no. : 2489

1.2 Supplier

Firm name : Illovo Sugar Ltd.
Address : 1 Nokwe Avenue
Ridgeside
Umhlanga Rocks
4320
South Africa
Phone no. : + 27 (31) 508 4300

1.3 Emergency phone numbers

EnviroServ Hazmat Services
Local and International Telephone No.: 0800 147 112

2. COMPOSITION / INFORMATION ON ACTIVE INGREDIENT

Substance : 2-Furan carboxaldehyde
CAS-no. : 98-01-1
Annex-1 no. : 605-010-00-4
% (weight) : 99
Symbol : T
R-phrases : 21-23/25 - 36/37-40

3. HAZARDS**INERT**

No known hazards

ACTIVE**3.1 Physical hazards**

Combustible

The vapour mixes with air.

Above 60°C explosive vapour-air mixtures may be formed.

3.2 Human health hazards

Toxic by inhalation and if swallowed

May be absorbed by the skin

Is corrosive to the eyes, the skin and the respiratory tract

Inhalation of vapour or spray may cause shortness of breath (lung oedema).

3.3 Environmental hazards

Harmful to the aquatic environment

4. FIRST AID MEASURES

General	:	In all cases call a doctor; upon poisoning by this substance specific first aid is essential; the requisite means (oxygen) with instructions for use must be available.
Inhalation	:	fresh air, rest, half upright position, and transport to hospital.
Skin contact	:	remove contaminated clothes, rinse skin with water or shower and transport to a doctor.
Eye contact	:	first rinse with plenty of water (remove lenses if possible), transport to a doctor. Do not apply eye-drops.
Ingestion	:	Rinse mouth, and transport to hospital immediately.

The symptoms of lung oedema often do not become manifest until a few hours have passed, and they are aggravated by physical effort; rest and hospitalisation is therefore essential.

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable : powder, water spray, foam, carbon dioxide.

Special hazards	:	in case of fire toxic gases are formed (carbon monoxide).
Personal protection	:	self-contained breathing apparatus.
Other procedures	:	in case of fire: keep drums cool by spraying with water.

6. ACCIDENTAL RELEASE MEASURES (BULK TRANSPORT)

6.1 Personal precautions

Additional ventilation

Wear chemical-resistant clothing and fresh-air hoods/self-contained breathing apparatus.

6.2 Environmental precautions

Do not discharge in surface water.

6.3 Cleaning measures

When spillage is more than 50 litres evacuate danger area.

Dam spilled substance - remove carefully with special vacuum cleaner; recycle if possible.

Collect remainder in inert absorbent or use 10% sodium bisulfite (be careful: reaction).

Keep reaction product at rest for at least some hours.

Collect reaction product in inert absorbent and store carefully in containers.

Wash away remainder with water.

Flush water into sewage.

7. HANDLING AND STORAGE

7.1 Handling

Use only in well-ventilated areas.

No open flames and no smoking.

Above 60°C closed system.

7.2 Personal protection

Respiration protection	:	breathing protection
Skin protection	:	gloves (butyl rubber, polyvinyl alcohol), protective clothing.
Eye protection	:	face shield.

7.3 Storage

The colour turns to red brown during storage.

The substance affects many synthetic materials; store only in original packing, do not apply plastics.

Separate from oxidants, strong acids and strong bases.

Store in cool, dark, ventilated area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Occupational exposure limits

HSE Occupational Exposure Limits 1995

Long-term limit 8 mg/m²

Short-term limit 20 mg/m³

8.2 Engineering measures

Ventilation, local exhaust or breathing protection.

Do not eat, drink or smoke during work.

8.3 Personal protection

Respiration protection	:	breathing protection
Skin protection	:	gloves (butyl rubber, polyvinyl alcohol), protective clothing.
Eye protection	:	face shield.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid, oily
Odour characteristic	:	pungent, almond
Colour	:	colourless to yellow
Flash point (°C)	:	68 (open cup)
Relative density (water = 1)	:	1.16
Water solubility	:	emulsifies in water

10. STABILITY AND REACTIVITY

Stability	:	turns to redbrown on exposure to air and light
Conditions to be avoided	:	contact with open flames and warm surfaces, oxidants, strong acids and bases.
Hazardous reactions	:	exothermic polymerisation (resinification) in contact with oxidants, strong acids or bases; fire and explosions may occur.

11. TOXICOLOGICAL INFORMATION

The substance may be absorbed into the body by inhalation of vapour or spray, ingestion and through the skin; the substance affects the nervous system, serious cases may result in weakness, coma.

The substance is toxic by way of inhalation (LC₅₀ rat 6 hours: 175 ppm; LC₅₀ mammalian parameter: 0,6995 mg/l) and by way of swallowing (LD₅₀ rat 165 mg/kg).

The substance affects the lungs and kidneys.

Furfural in air is absorbed dermally by humans with the same affects on the body as by way of inhalation or ingestion. Intensive contact with the skin may cause dermatitis.

Acute symptoms:

Inhalation	:	sore throat, coughing, shortness of breath, laboured breathing.
Skin	:	redness, pain, burns.
Eyes	:	redness, pain, blurred vision.
Ingestion	:	sore throat, abdominal pain, vomiting.

12. ECOLOGICAL INFORMATION

Mechanical degradation is 100%; biological degradation is 96,3%

The substance is harmful to Daphnia's (LC₅₀ 24 hours: 10-30 mg/l) and to fish (LC₅₀ 96 hours: 10-32 mg/l).

13. DISPOSAL CONSIDERATIONS

The substance has to be removed as chemical waste in accordance with local regulations.

14. TRANSPORT INFORMATION

UN-No. : 1199

RID/ADR (rail/road)

Proper shipping name	:	FURALDEHYDES
Class	:	6.1, 13 (b)
Risk label(s)	:	6.1 + 3
Kemler-no.	:	63
Transport emergency card	:	61G61bc

IMDG (sea)

Proper shipping name	:	FURALDEHYDES
Class	:	6.1
Packaging group	:	II
Risk label(s)	:	6.1 + 3

Marine pollutant	:	-
MFAG/EmS	:	300/6.1-01

15. REGULATORY INFORMATION

Supply classification	:	toxic
Symbol	:	T

R-phrases

21	:	Harmful in contact with skin.
23/25	:	Toxic by inhalation and if swallowed.
36/37	:	Irritating to eyes and respiratory system.
40	:	Possible risks of irreversible effects.

S-phrases

(1/2)	:	Keep locked up and out of reach of children.
26	:	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
36/37/39	:	Wear suitable protective clothing, gloves and eye/face protection.
45	:	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

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