



NEW PACK AGRO CHEM

The Leader in the Field

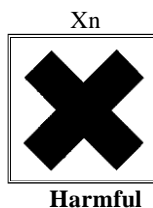
AN ISO 9001 : 2015 & OHAS : 18001 CERTIFIED COMPANY

MATERIAL SAFETY DATA SHEET

Emergency Phone: 02646 272 917
Plot No.238/1/A, GIDC PANOLI,
TAL- ANKLESHWAR , DIST- BHARUCH,
GUJARAT 394 115.

DIMETHOATE 30% EC (ROGOR)

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



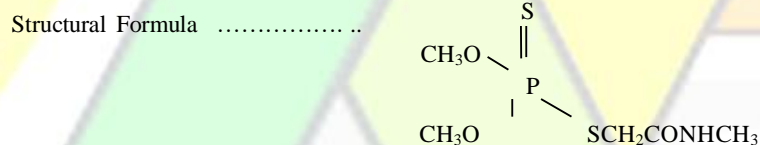
Product Name: **DIMETHOATE 30 % EC (ROGOR)**
Manufacturer : New Pack Agro Chem
238/1/A, GIDC
Panoli - 394 115
Dist. – Bharuch
Gujarat State (INDIA)
Emergency
Telephone No. 02646 272917.

2. COMPOSITION/INFORMATION ON INGREDIENTS

2.1. ACTIVE INGREDIENT:

CAS Name Phosphorodithioic acid, O, O-dimethyl S-(2-(methylamino)-2oxoethyl) easter
Other Name (s)..... O , O –dimethyl S-(N-methylcarbamoyl-mathyl) Phosphorodithioate
ISO Name Dimethoate
CAS No. 60-51-5
EC No. 200-480-3
Index No. 015-051-00-4

Molecular Weight 229.3
Empirical Formula C₅H₁₂NO₃PS₂



2.2. TYPICAL CONTENT 30%
2.3. MATERIAL USE Insecticides
2.4. CLASSIFICATION.....



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EU Classification.....

WHO Classification

USA Classification.....

Canada – HMIS Rating.....

Xn;R21/22: Harmful in contact with skin and if swallowed. Class II: moderately Hazardous

Toxicity Category II, single Word: Warning. Health: 2

Flammability: 1

Reactivity: 1

Personal Protection: See 8.1

3. HAZARDS IDENTIFICATION

3.1. Health Hazards (Acute and Chronic)

Dimethoate is a poison (cholinesterase inhibitor). It rapidly enters the body on contact with all skin surfaces and eyes. Clothing contaminated with material must be removed immediately and all skin washed thoroughly.

Repeated exposures to cholinesterase inhibitors such as **Dimethoate** may, without warning, cause increased susceptibility to doses of any cholinesterase inhibitor.

3.2 Signs and Symptoms of Exposure

Headache, nausea, vomiting, cramps, weakness, blurred vision, pin-point pupils, tightness in chest, labored breathing, nervousness, sweating, watering of eyes, drooling or frothing of mouth and nose, muscle spasms and coma.

3.3. Environmental Hazards See 12.

4. FIRST AID MEASURES

4.1. Emergency and First Aid Procedures

Call a doctor (physician), clinic or hospital immediately. Explain that the victim has been exposed to **Dimethoate**, an organophosphorus insecticide, and describe his/her condition. Move the exposed person immediately from the area where the product is present.

If breathing has stopped, start artificial respiration immediately and maintain until physician takes charge of the exposed person.

If swallowed and the exposed person is conscious make him/her vomit quickly. Have the exposed person drink 1 or 2 glasses of water and induce vomiting by touching the back of throat with finger. Repeat until vomit is clear. Never give anything by mouth to an unconscious person.

Make the exposed person lie down and keep him/her steady. Get medical attention immediately.

In case of contact immediately flush eyes or skin with plenty of water while removing contaminated clothing and shoes. See physician immediately.

4.2 Note to Physician

Dimethoate is a cholinesterase inhibitor affecting the central and peripheral nervous systems and producing cardiac and respiratory



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depression.

Cholinesterase inhibition – Treatment **Antidote:** Administer atropine sulphate in large doses. TWO to FOUR mg intravenously or intramuscularly as soon as cyanosis is overcome. Repeat at 5 to 10 minute intervals until signs of atropinisation appear.

2-PAM chloride is a pharmacological antidote and may be administered as an adjunct to, but not a substitute for atropine, which is a symptomatic and often lifesaving antidote. DO NOT GIVE MORPHINE OR TRANQUILLIZERS At first sign of pulmonary edema, the patient should be given supplemental oxygen and treated symptomatically.

Continued absorption of **Dimethoate** may occur and relapse may occur after initial improvement. VERY CLOSE SUPERVISION OF THE PATIENT IS INDICATED FOR AT LEAST 48 HOURS.

5. FIRE-FIGHTING MEASURES

- 5.1. Extinguishing Media and Procedure Dry chemical or carbon dioxide for small fires, water spray or foam for large fires.
- Use water spray to keep fire-exposed containers cool. Approach fire from upwind to avoid hazardous vapours and toxic decomposition products. Fight fire from protected location or maximum possible distance. Avoid heavy hose streams. Dike area to prevent water runoff. Firemen should wear self-contained breathing apparatus and protective clothing.
- 5.2. Hazardous Decomposition or Byproducts in a Fire The essential breakdown products are dimethyl sulfide, sulfur dioxide, carbon monoxide, carbon dioxide, nitrogen oxides and phosphorus pentoxide.



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5.3 Unusual Fire and Explosion Hazards See 10.1

6. ACCIDENTAL RELEASE MEASURES

- 6.1. Personal Protection Observe all protection and safety precautions when cleaning up spills, see 8.
- 6.2. Steps to Be Taken in Case of Spill
- Small liquid spills on the floor or other impervious surface should be swept up by means of an inert absorptive material such as hydrated lime, sawdust, fuller's earth or other absorbent clays. Scoop into proper containers and dispose of in accordance with the instructions provided under Disposal (see 13). Rinse area with soda lye.
- Large liquid spills on the floor or other impervious surface should be contained or diked and then absorbed with an inert absorptive material such as hydrated lime, sawdust, Fuller's earth or other absorbent clays. Collect the contaminated absorbent, place in a metal drum and dispose of in accordance with the instructions provided under Disposal (see 13). Rinse area with soda lye.
- Large spills that soak into the ground should be dug up, placed in metal drums and disposed of in accordance with instructions provided under Disposal (see 13).
- Dimethoate** can be hydrolysed in water by heating and by adjusting the pH (alkaline). The product may be disposed of through proper incineration.

7. HANDLING AND STORAGE

- 7.1. Precautions to Be Taken in Storing
- Dimethoate** is stable for a long period when stored at temperatures not exceeding 25°C. Storage at temperatures not exceeding 25°C is recommended.
- Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- 8.1. Respiratory Protection ---
- Protective Gloves Wear chemical resistant gloves, such as barrier laminate, butyl rubber, nitrile rubber or viton.
- Eye Protection Wear safety glasses.
- Other Protection Wear water-proof pants, coat, hat, rubber boots or rubber overshoes.
- 8.2. Work/Hygienic Practices If handled indoors, provide mechanical exhaust ventilation.



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Persons working with this product for a longer period should have frequent blood tests of their cholinesterase levels. If the cholinesterase level falls below a critical point, no further exposure should be allowed until it has been determined by means of blood tests that the cholinesterase level has returned to normal.

Keep all unprotected persons and children away from working area. Before removing gloves wash them with soap and water. Always wash hands, face and arms with soap and water before smoking, eating or drinking.

After work, take off all work clothes and shoes. Shower, using soap and water. Wear only clean clothes when leaving job. Do not wear contaminated clothing. Wash protective clothing and protective equipment with soap and water after each use. Respirator should be cleaned and filter replaced according to instructions included with respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

- | | | |
|-------|---------------------------------------|--|
| 9.1. | Physical State | Liquid |
| 9.2. | Colour | Light amber colour |
| 9.3. | Odour | Mercaptanic |
| 9.4. | Melting Point | 45-47°C (technical product) |
| 9.5. | Boiling Point | 145°C |
| 9.6. | Specific Gravity (at 30°C.) | 1.00 – 1.05 g/ ml at 20°C |
| 9.7. | Vapour Pressure | Dimethoate: 1.85 X 10 ⁻⁶ mm Hg at 25°C
2.9 X 10 ⁻⁴ mm Hg at 50°C |
| 9.8. | Viscosity | --- |
| 9.9. | Solubility in Water | Forms emulsion in water |
| 9.10. | Solubility in Organic Solvents | Highly soluble in chloroform, methylene chloride, benzene, toluene, alcohols, esters and ketones. Slightly soluble in xylene, carbon tetrachloride and aliphatic hydrocarbons. |
| 9.11. | Partition Coefficient n-Octanol/Water | Dimethoate: log K _{ow} = 0.704 |
| 9.12. | pH | When equal amounts of Dimethoate and distilled water are dispersed at 20°C, the pH measured in the water phase is 3.7. |
| 9.13. | Flash Point | 45°C (Abel close cup method) |
| 9.14. | Autoignition Temperature | Not available |
| 9.15. | Flammable Limits | Not available |



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10. STABILITY AND REACTIVITY

10.1. Thermal Decomposition **Dimethoate** is stable for a long period at temperatures not exceeding 25°C. At higher temperatures decomposition will take place and lower the quality of the product.

The decomposition is dependent on time as well as temperature due to exothermic and autocatalytic reactions. The reactions involve rearrangements and polymerization.

At higher temperatures the released heat can raise the temperature and accelerate the decomposition.

Tests have shown that if **Dimethoate** is heated to and kept at 40°C for 2 weeks the content of active ingredient will be lowered by 6% or more and after 20 weeks at 40°C the content of active ingredient is halved.

Warning

It is strongly advised not to heat Dimethoate above 35°C and only heat indirectly and with solvent present.

Above 80°C Dimethoate will decompose rapidly, significantly increasing the risk of inducing explosion.

10.2. Hazardous Decomposition or Byproducts The essential breakdown products are volatile, toxic, malodorous and inflammable compounds such as dimethyl sulfide and methyl mercaptane.

10.3. Materials to avoid Strong alkalis, amines and strong oxidizing compounds. It can corrode iron, steel, tin plate, lead and copper. **Dimethoate** is rapidly hydrolysed at pH > 8.0.

11. TOXICOLOGICAL INFORMATION

11.1. Health Hazards See 3.1.

11.2. Route(s) of Entry

- Ingestion	LD ₅₀ , oral, rat	:	387 mg/ Kg.
- Skin	LD ₅₀ , dermal, rat	:	>2000 mg/ Kg.
- Inhalation	LC ₅₀ , inhalation ,rat	:	Approx. 1.6 mg/1/4 h (estimated value)

11.3. Irritancy of Material Very slight transient dermal irritation. Slight eye irritant.

11.4. Allergic Sensitization **Dimethoate** is found not to be a skin sensitizer in guinea pigs.



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- | | |
|---------------------------------|---|
| 11.5. Carcinogenicity..... | Dimethoate is not carcinogenic in rats and mice. |
| 11.6. Reproductive Effects..... | No embryotoxic effects of Dimethoate are found in rats and rabbits at maternal non-toxic dose. |
| 11.7. Teratogenic | Dimethoate is not teratogenic. |
| 11.8. Mutagenicity..... | Dimethoate is mutagenic in bacterial tests, but not in mammalian cells or in <i>in vivo</i> tests. |

12. ECOLOGICAL INFORMATION

The active ingredient **Dimethoate** is biodegradable. It undergoes rapid degradation in the environment and in waste water treatment plants. No adverse effects are observed at concentrations up to 100 mg/l in waste water treatment plants. Degradation occurs both aerobically and anaerobically, biologically as well as abiotically.

The product is toxic to wildlife and aquatic invertebrates and highly toxic to bees. The acute toxicity measured is:

- Fish	96-h LC ₅₀ , Rainbow trout (<i>Salmo gairdneri</i>)	30.2 ppm
- Invertebrates	48 h-EC ₅₀ , Daphnids (<i>Daphnia magna</i>)	2.5 ppm
- Birds	LD50, acute oral, Mallard Duck (M)	41.7 ppm
- Bees	24-h LD50, Bees, topical	0.12 µg/bee
	24-h LD50, Bees, oral	0.15 µg/bee

13. DISPOSAL CONSIDERATIONS

- | | |
|-----------------------------------|---|
| 13.1. Waste Disposal Method | Spill and waste disposal procedures approved by state and local authorities must be observed. |
| | Do not contaminate water, foodstuffs, feed or seed by storage or disposal. |
| 13.2. Container Disposal | Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill. However, procedures approve by state and local authorities must be observed. |

14. TRANSPORT INFORMATION

UN Classification	
Proper Shipping Name	Organophosphorus Pesticide, Liquid, Toxic (Dimethoate)
No.	3017
Class	6.1
Packing Group	III
Primary Hazard	Toxic
Subsidiary Risk	---
Marine Pollutant (P/PP)	Marine Pollutant
(IMDG-Code)	



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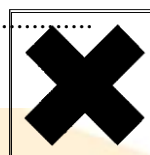
15. REGULATORY INFORMATION

15.1. IN THE EU:

Classification and Labelling

(according to 67/548/EEC with amended) Danger Symbol

Xn



Harmful

Contains Dimethoate

R - Phrases R21/22 – Harmful in contact with skin and if swallowed.

S - Phrases..... S36/37 – Wear suitable protective clothing and gloves

15.2	Threshold Limit value	OSHA PEL (USA)	ACGIH (USA) TLV-TWA	MAK (Germany)	HGV (Denmark)	AUSTRALIA
	Dimethoate	--	--	--	--	--

Threshold limit values approved by the authorities must, however, be observed.

16. OTHER INFORMATION

This material should only be used by persons, who have been instructed in all safety precautions required and otherwise are familiar with content of this data sheet.

The information presented herein is believed to be accurate and reliable, but is presented without any warranty, express nor implied, on the part of New Pack Agro Chem.