

Dynamic Agribusiness Sdn. Bhd.
(Registration No.: 544719-D)
No.11-2, Jalan Meranti SD13/4,
Bandar Sri Damansara,
52200 Kuala Lumpur.
Tel.: 03- 6272 9308 Fax: 03- 6272 9528
Email: info@brt.com.my

SAFETY DATA SHEET

Product Name: **DSP CHLOROPHACINONE 0.25**

Active Ingredient (%) Chlorophacinone

CAS Number 3691-35-8

Chemical Name (IUPAC): 2-[2-(4'-chlorophenyl)-2-phenylacetyl] indan-1,3-dione

Chemical Class: Rodenticide

1. SUBSTANCE/ PREPARATION AND COMPANY IDENTIFICATION

Chemical Nature: Rodenticide

Distributor: Dynamic Agribusiness Sdn. Bhd
No.11-2, Jalan Meranti SD 13/4
Bandar Sri Damansara,
52200 Kuala Lumpur
Tel.: 03-6272 9308 Fax: 03-6272 9528

2. COMPOSITION/INFORMATION ON INGREDIENTS

Composition	CAS Number	% w/w
2,2',2'' Nitrilotriethanol	102-71-6	3-5
Propylene Glycol	57-55-6	80-90
Chlorophacinone	3691-35-8	0.25

3. HAZARDS IDENTIFICATION

Classification of the mixture
Classification according to 1272/2008/EC
Acute inhalation toxicity, category 4, H332
REPRO Tox, category 1B, H360D
STOT RE Category 1, H372
Aquatic acute toxicity, Category 3, H412

Product Name: DSP Chlorophacinone 0.25

Label Elements

Hazard pictograms



Signal Word: DANGER

Indication of danger:

H332	Harmful if inhaled
H360D	May damage the unborn child
H372	Cause damage to organs (blood) through prolonged or repeated exposure
H412	Harmful to aquatic life with long lasting effects

Safety phrases:

Prevention

P202	Do not handle until all safety precautions have been read and understood
P260	Do not breathe mist and spray
P273	Avoid release to the environment
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection

Response

P308+P310 IF exposed or concerned: Immediately call a POISON CENTER or doctor/ physician

Disposal

P501 Dispose of contents/ container as hazardous waste according to the national regulations.

Other hazards:

The mixture contains CHLOROPHACINONE, index number: 606-014-00-9

4. FIRST AID MEASURES

Description of first aid measures

Routes of Exposure:

Eye contact - Immediately flush the eyes with plenty of water for at least 15-20 keeping the eyelids lifted. If redness persists or eye discomfort occurs, consult an ophthalmologist.

Skin contact - The product is toxic in case of skin contact. In case of skin contact immediately wash the skin with plenty of soap and water. Take off clothes and shoes which are contaminated with the mixture. In case of irritation and/or persistent pain, it is recommended to obtain medical attention.

Inhalation – **The product is lethal if inhaled.** In case of exposition or in case of suspected exposition remove those affected from the contaminated area, take prompt and immediate medical assistance and call a POISON CENTER. The CHLOROPHACINONE inhaled typically does not lead to immediate symptoms but delayed in time.

Ingestion - **The product is toxic and hazardous if ingested.** Obtain immediate medical attention. Do not give anything without the doctor's advice and only if the affected person is alert and conscious. Do not induce vomiting. If the person is unconscious, place in recovery position stable. Ensure good air circulation. Loosen tight clothing

Product Name: DSP Chlorophacinone 0.25

such as a collar, tie, belt or waistband. In any case it is always best to seek medical assistance. During emergency use Latex gloves and respiratory protection.

Any trauma caused to a person who has ingested an anticoagulant may cause bleeding.

There is no evidence of reproductive toxicity of CHLOROPHACINONE, however the functional group of this product is the same as Warfarin considered toxic for reproduction with teratogenic effects. **Particular attention should therefore be paid to pregnant women who have come into contact with the product or suspect single or repeated exposure to the product.**

Most important symptoms and effects, both acute and delayed:

CHLOROPHACINONE a so-called second-generation anticoagulant rodenticide, like other Coumarin derivatives, is a vitamin K antagonist Stops the normal mechanisms of blood coagulation resulting in profuse internal bleeding and death

- Lethal in case of skin contact, may absorbed and cause internal hemorrhage.
- Lethal if ingested, there is a serious risk of internal hemorrhage.
- Lethal if inhaled, there is a serious risk of internal hemorrhage.
- Harmful if ingested, there is a serious risk of internal hemorrhage.
- The symptoms may be associated with increased bleeding tendency.

Indication of any immediate medical attention and special treatment needed:

General recommendations: In case of doubt or in case of persistent symptoms, call a doctor and show him the label information present in the safety data sheet. In case of accident, the first aid must be provided by qualified personnel to avoid further complications.

Note to physician: Rodenticides anticoagulants, as CHLOROPHACINONE work by blocking the regeneration of vitamin K 2, 3 epoxide to vitamin K hydroquinone by inhibiting the action of vitamin K epoxide reductase. Vitamin K is required for the synthesis of important proteins such as prothrombin, protein essential for the process of blood clotting. So the progressive decrease in vitamin K causes an increase of the probability of fatal bleeding

1. Check prothrombin activity several times, even after a few days, in particular if the amount ingested is high.

Diagnosis: changes in prothrombin time (symptoms and coagulation tests)

2. Treatment: Vitamin K1.

3. In animals and particularly in pets, vitamin K1 can also be administered in the absence of bleeding disorders, due to the severity of the bleeding that may appear in case of ingestion

5. FIRE FIGHTING MEASURES

This product is non-flammable but dangerous for the environment, in case of an accident avoid the contamination of the water: Do not allow the extinguish water to enter into sewers.

Extinguishing media:

Suitable extinguishing media: Inert gas, foam, chemical powder, CO₂.

Extinguishing medial which should not be used due to safety reasons: Water

Protective equipment: In case of an accident wear a self-contained breathing apparatus and suitable protective clothes.

Special hazards arising from the substance or mixture

Combustion may form irritant and toxic fumes. In case of combustion, toxic and irritant gas may be formed.

Advice for firefighters

Fire-fighting instructions

Remove the unauthorized and unprotected personnel. Stopping supplies if possible. Move the containers into a safe place if possible. Keep in a cool containers and the surrounding area by spraying water on the containers and the surrounding areas. Fight fire from upwind.

Fire-fighting equipment

Eyes protection and respiratory protection is necessary for the fire-fighting personnel. Full clothing and self-contained breathing apparatus (SCBA) should be used for all indoor fires and for major outdoor fires.

Warning, the product is dangerous for the environment: The water resulting from the fire extinguishing measures must be recovered and disposed of as hazardous waste.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Wear appropriate gloves, glasses and protective clothes. Protect the respiratory tract in weakly ventilated environment (mask with filter against organic vapours).

Environmental precautions

Avoid the product to reach drains, water drains and penetrates into the soil. If waters or drains become polluted, inform immediately the competent Authorities.

Methods and material for containment and cleaning up:

Cover the spill with wet sand or earth. Place in a container for disposal as hazardous waste. Wash the affected area with water. Prevent entering into surface water or sewer. In case of uncontrolled spillage or discharge into watercourses, notify the responsible authorities.

7. HANDLING AND STORAGE

Precautions for safe handling:

Avoid contact with eyes and skin. Use all the provided personal precautions to avoid contact. For personal protection see Section 8. Protect the eyes and the face. Do not eat, drink or smoke during the use. This product is a concentrate and exclusively for industrial use for the production of rodenticide baits, do not use in supplied form. Anticoagulant: avoid contact in any case, especially avoid contact by pregnant women. Avoid heating the product above 65°C.

Conditions for safe storage, including any incompatibilities:

Keep the container well-sealed in cool and dry place away from food and pets. Protect from direct sunlight. Protect the mixture from freeze. Keep away from combustion sources and nearby extinguishers. Adequate ventilation/aspiration at the workplace. Keep container in areas for the storage of hazardous materials.

Specific end use(s)

The mixture is a raw material for the formulation of rodenticide baits. Any other use is not allowed.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

Limit values for the exposition not being available to follow these precautions:

Respiratory Protection	Necessary in case of aerosol
Hand protection	Suitable gloves for chemical products. Foresee the periodic substitution
Eye protection	Suitable goggles
Skin protection	Suitable protective clothes. Foresee the periodic substitution.

All the usual precautions for handling chemical products have to be followed

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Liquid,
Color:	indicated on the label (it can be red or blue or without any added color)
Odor:	Not perceptible
Boiling Point:	190 °C
Flash Point	> 120 °C
Specific Gravity/Density:	1010-1100 g/l
pH:	7.0-9.0
Water Solubility	Soluble
Fat Solubility	Soluble in various organic Solvents

10. STABILITY AND REACTIVITY

Reactivity: No sign of reaction with the materials of the container on the basis of a widespread experimental and commercial use of many years. Thermally stable below 150 ° C, without decomposition or transformation observed

Chemical stability: Stable within normal conditions.

Possibility of hazardous reactions: There are no particular risks of reaction with other substances in normal conditions of use.

Conditions to Avoid: Direct sunlight, freeze and high temperature. Avoid heating the product above 65°C.

Incompatible materials: The product is incompatible with strong oxidizing agents.

Hazardous Decomposition Products: Combustion may form toxic fumes, irritant fumes and COx.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity/Irritation Studies

Ingestion:	LD50 (rats) a.i	3,1 mg/kg (WHO)
	Experimental	>2.000 mg/kg (BIOLAB)
Dermal:	LD50 (rat)	> 2000 mg/kg (BIOLAB)
Inhalation:	LC50 (rat 4 hr.)	Not foreseen

Harmful effects: The preparation contains a substance with anticoagulant effect and may cause internal haemorrhages even delayed.

12. ECOLOGICAL INFORMATION

Toxic action on fishes, plankton and other organism. Limited risk for the waters.

Eco toxicity

Fishes: At the dosage of 100 mg/l during the 96h of observation, no symptom of toxicity is appeared and no death (Report no. 95/11598 Biolab)

Algae: At the dosage of 100 mg/l there is no difference in the growing of the algae (Report no. 95/11597 Biolab)

Daphnia: Cl50 is > than 100 mg/l (report no 95/11596 Biolab)

Product Name: DSP Chlorophacinone 0.25

Mobility

Adsorption coefficient of the active is $K_{oc}=275$. Classification: low leaching (Technical report N° 1 14/07/1997 Chemservice)

Persistence and degradability

The active ingredient is scarcely degradable.

Bio accumulative Potential

The active ingredient has Pow: >1000 (Study CH-14/96-B Chemservice)

Other adverse effects

Not available

13. DISPOSAL CONSIDERATION

Waste treatment methods

The methods of waste management must be evaluated case by case, in relation to the composition of the waste itself, in light of the provisions of Community law and national legislation. For handling and measures in case of accidental spillage of waste, apply in general the guidance provided in Section 6 and 7; caution and specific actions should however be evaluated in relation to the composition of the waste.

Use to waste disposal consisting of the substance after evaluating the possibilities for re-use or re-use in the same or another production cycle, or initiate a recovery in firms authorized under Legislative Decree no. 152/2006. The waste containing emptied containers must be placed in an area specially identified for their collection while waiting to start a disposal. The area must be paved and equipped with a cover in order to prevent the washing away by atmospheric precipitation.

The properly emptied containers of the substance in its current form, can be disposed of in landfills authorized for hazardous waste, pursuant to Legislative Decree no. 36/2003, to pick up waste code attributed to them, provided that they respect the limits and conditions for the acceptability established by the Legislative Decree no. 36/2003 and the Ministerial Decree 27/09/2010. The substance, in the case of disposal in its current form, according to Directive 2008/98 / EC, can be disposed of in incinerators for hazardous waste.

It is not allowed for disposal through the discharge to wastewater

14. TRANSPORT INFORMATION

The transport of this product is subject to the regulations of 'Dangerous Products'

Definition: organochlorine pesticides, liquid toxic

Road and Rail Transport N.A.

RID/ADR

Marine Transport, IMDG N.A

Air Transport, IATA N.A

15. REGULATORY INFORMATION

EC labelling and classification

Danger symbol	Xn	Harmful
R Phrases	R21/22 R52/53	Harmful in contact with skin and if swallowed Harmful to aquatic organisms, may cause long term adverse effects in the aquatic environment
S Phrases	S13 S36/37	keep away from food, drink and animal feedstuffs Wear suitable protective clothing and gloves

Product Name: DSP Chlorophacinone 0.25
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S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)
S60	This material and its container must be disposed of a hazardous waste
S61	Avoid release to the environment. Refer to special instructions/ Safety data sheets.

16. OTHER INFORMATION

The information herein is presented in good faith and believed to be accurate as of the issue or revised date shown above. However, since the actual use of the product is beyond manufacturer's control, no warranty, expressed or implied, is given and no responsibility assumed. Regulatory requirements governing this product are subject to change and may differ from one location to another. It is the buyer's responsibility to ensure that the buyer's activities comply with federal, state and local laws.

Reference SDS: Chlorophacinone, dated January 2019