

SAFETY DATA SHEET

SECTION 1 - Identification of the substance or mixture and of the supplier

Product form: Pale yellow to reddish orange liquid
Product name: FEND OFF Deer and Rabbit Repellent
Product code: DR-25, ADR-25, DR-50, ADR-50, DR-50B, DR-100B

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SECTION 2 - Hazard(s) identification

The repelling formulation is a mixture of garlic oil and hydrogenated soybean oil. Garlic oil is the active ingredient in the formulation and the hydrogenated soybean oil is the inert ingredient. The repelling formulation meets the requirements to be classified as a Minimum Risk Pesticide under section 25(b) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

Hazardous Material Identification System (HMIS) classification for components of the repelling formulation:
Garlic Oil - Health (2); Fire (2); Reactivity (0); Personal protection (H)
Soybean Oil (hydrogenated) - Health (2); Fire (2); Reactivity (0); Personal protection (A)

Health (2) - Temporary or minor injury may occur.

Fire (2) - Materials which must be moderately heated or exposed to high ambient temperatures before ignition will occur. Includes liquids having a flashpoint at or above 100° F. but below 200°F.

Reactivity - Materials that are normally stable even under fire conditions and will not react with water, polymerize, decompose, condense or self-react. Non-explosives.

Personal Protection - (0) Unlike the information taken from the MSDS and HMIS the Personal Protection is 0 because the user of the repellents never comes into contact with the repelling formulation. The only way the formulation can escape the repellent is for someone to deliberately cut the repellent open.

Potential Acute Health Effects:

Garlic oil - Hazardous in case of skin contact (irritant), or eye contact (irritant).

Soybean oil (hydrogenated) - Slightly hazardous in case of skin contact (irritant), or eye contact (irritant).

Potential Chronic Health Effects: Garlic oil and Soybean oil (hydrogenated)

Carcinogenic Effects - not available

Mutagenic Effects - not available

Teratogenic Effects - not available

Developmental Toxicity - not available

Repeated or prolonged exposure is not known to aggravate medical condition.

SECTION 3 - Composition/information on ingredients

Note: The physical data are for the repelling formulation. The repelling formulation is contained within the tube shaped polypropylene body of the repellent during storage, transport, and after the repellent is

activated by breaking a barrier. When activated only the repelling odor is released into the environment. If the repelling formulation is purposely released or when the plastic body biodegrades, it is only 0.6 ml per repellent.

Composition of Repelling Formulation

Ingredient	Identifier	% by weight
Garlic Oil	(CAS No.) 8000-78-0	10
Soybean Oil (hydrogenated)	(CAS No.) 8016-70-4	90

Toxicological data on ingredients: Not applicable

SECTION 4 - First aid measures

Note: The repelling formulation remains within the repellent device, even when activated. Therefore the chance of someone coming in contact with the repelling formulation is minimal. If the formulation from a repellent gets on someone:

Eye contact: Check for and remove contact lenses. Do not use eye ointment. Seek medical attention.

Skin contact: Gently and thoroughly wash contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, and creases. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

Inhalation: If someone somehow gets the repelling formulation on themselves, after washing area, allow victim to rest in a well-ventilated area.

Ingestion: Do not induce vomiting.

SECTION 5 - Firefighting measures

Flammability of the product - Flammable

Auto-ignition temperature - 445°C (833°F)

Flash point - closed cup 46°C (114.8°F)

Flammable limits - Not available

Products of combustion - Not available

Fire hazards in presence of various substances - Not available

Explosive hazards in presence of various substances:

Risks of explosion of the product in presence of mechanical impact - Not available

Risks of explosion of the product in presence of static discharge - Not available

Firefighting media and instructions:

Flammable liquid - small fire: use dry chemical powder

Flammable liquid - large fire: use alcohol foam, water spray, fog or foam. A water spray may cause a flare-up if sprayed on a hot fire - this is momentary and if a water spray is continued, the fire will be extinguished. A flare-up will not occur with other extinguishing media.

Special remarks on fire hazards - Not available

Special remarks on explosion hazards - Not available

SECTION 6 - Accidental release measures

Note: An individual repellent contains 0.6 ml. of repelling formulation. The only way the formulation can escape the repellent is for someone to deliberately cut the repellent open or hit with a hammer. Therefore, there is no accidental release.

Small spill - Absorb with an inert material such as paper towel, newspaper or cat litter and put the contaminated material in an appropriate disposal container.

Large spill - Not available

SECTION 7 - Handling and storage

Precautions: Keep repellents away from heat. Keep away from sources of ignition.

Storage: Store repellents in a cool, dry place. The shelf life of the repellents with the barrier unbroken should be one or more years.

SECTION 8 - Exposure controls/personal protection

Control Parameters: N/A. A repellent is activated outdoors. Then only the repelling garlic odor is released.

Personal Protection: N/A. No personal protection is required as the person applying the repellent never comes into contact with the repelling formulation.

SECTION 9 - Physical and chemical properties

Appearance	Liquid
Color	Pale yellow to reddish orange
Odor	Garlic
Odor threshold	No data available
Initial pH number ASTM D664 (mod)	8.3
Viscosity at 40°C	ASTM D445 18.94 mm ² /s
Density at 15°C	ASTM D4052 0.9432 g/ml
Specific gravity @ 60/60°F	ASTM D4052 0.9429
Molecular weight	Mixture
Boiling point	N/A
Evaporation rate	N/A
Decomposition temperature	N/A
Explosive properties	None
Auto-ignition temperature	Not established
Lower flammability limit	N/A
Upper flammability limit	N/A

SECTION 10 - Stability and reactivity

Reactivity	N/A
Chemical stability	Stable under recommended storage conditions
Possibility of hazardous reactions	No data available
Conditions to avoid	Heat, flames, sparks
Incompatible materials	Strong oxidizing agents
Hazardous decomposition products	Products may form under fire conditions, nature of decomposition products unknown.

SECTION 11 - Toxicological information

Exposure and effects are not likely because the repelling formulation is contained within the repellent device. Only the repelling odor is released when the product is activated. If someone purposely cuts a repellent open, only 0.6 ml. of repellent is released, then:

Eye contact	May cause mild irritation with redness and tearing.
Skin contact	Prolonged or repeated contact may cause mild irritation or dryness.
Inhalation	N/A
Ingestion	Not likely to occur.
Acute toxicity	No data available
Skin corrosion/irritation	No data available
Germ cell mutagenicity	No data available
Carcinogenicity	No data available
Reproductive toxicity	No data available
Specific target organ toxicity (single exposure)	No data available
Specific target organ toxicity (repeated exposure)	No data available

SECTION 12 - Ecological information

Toxicity: No data available. If the formulation is somehow released, it is not expected to be hazardous to terrestrial or aquatic organisms.

Persistence and degradability: No data available.

Mobility in soil: No data available.

Other adverse effects: No data available.

SECTION 13 - Disposal considerations

If repelling formulation is released, absorb it with paper towel, newspaper, kitty litter or other material and deposit in the trash.

SECTION 14 - Transport information

DOT classification - Not a DOT controlled material

UN number - None

UN proper shipping name - Not regulated

Special provisions for transport - N/A

Special precautions for user - None

Transport in bulk according to Annex III MARPOL 73/78 and IBC code - Not determined

Environmental hazards - Marine pollutant - no

SECTION 15 - Regulatory information

There are no safety, health or environmental regulations specific to this product.

SECTION 16 - Other information

This SDS was prepared May 2018. The information in this SDS was obtained from current and reliable sources. However, the data is provided without any warranty, expressed or implied, regarding its correctness or accuracy. Because the conditions for use, handling, storage and disposal of this product are beyond Luster Leaf's control, it is the responsibility of the user both to determine safe conditions for use of this product and to assume the liability for loss, damage or expense arising out of the product's improper use. The user should review various federal and state regulations to ensure full compliance.