

Biocide - Piscicide

EU Approval number: In the approval procedure.

20 litre

CFT Legumine®

Only allowed for professional use as a piscicide after certified training and under governmental control.

HAZARDOUS COMPONENTS

CAS-No.	Chemical name	Concentration	EU no
83-79-4	Rotenone	3,3 %	2015019



T= Toxic



N = Dangerous for the environment



Xn=Harmful



Xi= Irritant

Hazards Identification

R-phrases

R-22	Harmful if swallowed.
R-23	Toxic by inhalation.
R-36/37/38	Irritating to eyes, respiratory system and skin.
R-43	May cause sensitisation by skin contact.
R-50/53	Very toxic to aquatic systems, may cause long-term adverse effects in the aquatic environment.

Always read the Safety Data Sheet before use!

Safety Precautions

Operator Protection

S-phrases

S-1/2	Keep locked up and out of reach of children.
S-24/25	Avoid contact with skin and eyes.
S-26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S-36/37/39	Wear suitable protective clothing gloves and eye/face protection.
S-38	In case of insufficient ventilation wear suitable respiratory equipment.
S-45	In case of accident or if you feel unwell, seek medical advice immediately. (Show the label where possible).
S-60	This material and its container must be disposed as hazardous waste.
S-61	Avoid release to the environment. Refer to special instructions/safety data sheet.
S-62	If swallowed, do not induce vomiting; Seek medical advice immediately and show this container or label.

... Safety Precautions

Personal Protective Equipment

Respiratory protection: When handling product in enclosed area use respirator with combination filter for vapour/particulate.

Hand protection: Nitrile rubber gloves. Chloroprene.

Eye protection: Tightly fitting safety goggles. Eye wash bottle with pure water.

Skin and body protection: Protective suits, boots, rubber or plastic apron. Safety shower.

Environmental protection

S-61: Avoid release to the environment. Refer to special instructions/safety data sheet.

N: Very toxic to aquatic organisms may cause long-term adverse effects in the aquatic environment.

Environmental precautions: Prevent product from entering drains. Do not allow material to contaminate ground water systems. Do not contaminate surface water. KMnO_4 can be used for neutralization of the piscicide in water and for spills on land if necessary.

Methods for cleaning up: Soak up with inert absorbent material and dispose of as hazardous waste.

Storage and Disposal

S-60: This material and its container must be disposed of as hazardous waste.

Product: Do not contaminate ponds, waterways or ditches other than treatment area with chemical or used containers. This product is extremely toxic to fish and other aquatic organisms. Do not contaminate water outside the treatment area by cleaning of equipment or disposal of equipment wash waters. Do not contaminate water outside the treatment area, food, or feed by storage or disposal. Do not dispose of waste into sewer. Dispose of as special waste in compliance with local regulations.

Contaminated packaging: Empty remaining contents. Triple rinse containers. Empty containers should be taken for waste disposal. Do not re-use empty containers.

Requirements for storage areas and containers:

Keep containers tightly closed in a dry, dark, cool, max 20° C, and well ventilated place. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Store in original container and keep out of reach of children. Protect from sun.

Storage Life:

Physically and chemically stable for a minimum of 1 year when stored in the original unopened sales container in a dry, dark, cool place at max. 20° C and min. 4° C and protected from sun.

Field of Use

CFT Legumine is only allowed for control of fish in lakes, ponds, reservoirs, rivers, and streams.

Directions for Use

CFT Legumine is registered for use by, or under permit from, and after consultation with, government agencies.

CFT Legumine is not allowed to be mixed with other chemicals than water.

General Information

This product is a specially formulated product containing rotenone to be used in fisheries management for the eradication of fish from lakes, ponds, reservoirs, rivers, and streams. The use of CFT Legumine requires completion of certified training offered by the manufacturer VESO. The following use directions provide general guidance on how to make applications of CFT Legumine. The unique nature of every application site could require minor adjustments to the method and rate of application.

Because factors such as pH, temperature, depth, plant growth, and turbidity will change effectiveness, use this product only at locations, rates, and times authorized and approved by government agencies.

Rates must be within the range specified below and adapted to specific fish species and environmental factors present.

Properly dispose of unused product. Do not use dead fish for food or feed.

Do not use water treated with rotenone to irrigate crops or use as potable water. Contact the local water department to determine if any water intakes are within the treated area or within 2 km downstream of the discharge from the treated area. If so, coordinate the application with the water department to make sure the intakes are closed during treatment and neutralization periods.

Re-entry Statement: Do not allow public into treated water until rotenone has dissipated ($< 2 \mu\text{g/L}$ rotenone). The necessary waiting-period depends on the dosage of rotenone, categories of rivers and lakes (detention time, water flow, water volume, etc), and other physical and chemical factors. The following are suggested: Do not resume use of treated water until rotenone residues have dissipated to $< 2\mu\text{g/L}$.

Rivers: A waiting-period equivalent to the flushing time of the treated system followed by a 24-hour bio-assay demonstrating 100% survival of trout or similar sensitive species. For example if flushing time is 18 hours, then minimum waiting period is 42 hours (18 hours + 24 hours). Alternately, restrict public access until water monitoring results demonstrate $< 2 \mu\text{g/L}$ rotenone.

Lakes: A waiting-period equivalent to a 24-hour bio-assay demonstrating 100% survival of trout or similar sensitive species. For example, a treatment that had lethal conditions to trout for 14 days would have a minimum waiting period of 15 days (14 days + 1 day). Alternately, restrict public access until water monitoring results demonstrate $< 2 \mu\text{g/L}$ rotenone.

Dosage for Use

The actual application rates and concentrations of rotenone needed to control fish vary widely, depending on the fish species and the environmental factors present (listed above). The table below is a general guide for proper rates and concentrations. It is recommended that a bioassay be performed on the target species in the site water for confirmation of required lethal dose and treatment duration.

Type of Use	Parts per Million		Number of m ³
	CFT Legumine	Active Rotenone	Covered by one litre
Trout, salmon & pike	0.5 to 1.0	0.016 to 0.033	2000 to 1000
Minnows, like <i>Rutilus rutilus</i> , <i>Phoxinus phoxinus</i> etc	1.0 to 3.0	0.033 to 0.100	1000 to 333
Carp species like Common carp, TMG & other resistant fish species.	2.0 to 4.0	0.066 to 0.132	500 to 250

Dosage range for active ingredient rotenone: 0.033 – 0.132 ppm (mg/Litre)

Dosage range for CFT Legumine: 0.5 - 4 ppm or 0,5 - 4,0 litres per 1 000 000 litres (1000 m³) of water.

Use in Ponds, Lakes and Reservoirs

Pre-Mixing and Method of Application: The application is typically conducted by boat using pump or venturi bailer semi-closed systems which apply a 10% v/v mixture. Shoreline areas are treated with a spray of diluted product (1% to 2% v/v) over the water. Uniformly apply over water surface or bubble through underwater lines.

This product disperses readily in water both laterally and vertically, and will penetrate below the thermo cline in thermally stratified bodies of water. Cages containing live fish placed at various depths and locations are used as sentinels to assure that lethal conditions exist throughout the pond, lake or reservoir. Additional rotenone can be used (within limits allowed) to correct lack of mortality.

Neutralization: Water treated with this product will neutralize under natural conditions generally within one week to one month, depending upon temperatures and other environmental conditions. Rapid neutralization can be accomplished by adding potassium permanganate to the water at the same rate as CFT Legumine plus enough additional permanganate to meet the permanganate demand of the untreated water.

Restocking After Treatment: Wait 2 to 4 weeks after treatment. Place a sample of fish to be stocked in wire cages in the coolest part of the treated waters. If fish are not killed in 24 hours, the water may be restocked.

Use in Rivers and Streams

Slow Moving Rivers and Streams: In slow moving rivers and streams with little or no water exchange, use instructions for ponds, lakes and reservoirs.

Flowing Rivers and Streams: Typically, apply rotenone as a drip for 4 to 8 hours to flowing waters. Multiple application sites are used along the length of the treated water, spaced approximately 1 to 4 km apart, depending on water flow, turbulence, sunlight, temperature, and travel time between sites. Typically, application sites are spaced at 2 hours or less travel time intervals. A non-toxic dye such as Rhodamine-WT or fluorescein can be used to determine travel time. (Permission from government agency may be required to use non-toxic dye). Cages containing live fish placed immediately upstream of the downstream applications sites are used as sentinels to assure that lethal conditions exist between sites during treatment. Lack of mortality can be corrected by increasing the dose (within limits allowed), increasing the duration of treatment, and increasing the number of application sites. Banks of rivers and streams are treated with sprayers containing dilute (1% to 2% v/v) product.

Application of Undiluted or Diluted Material: Either undiluted or diluted product may be applied by drip. River and stream bank areas are treated with a spray of diluted product (1% to 2% v/v) over the water.

Neutralization: To limit effects downstream, neutralization with potassium permanganate can be used at the downstream limit of the treated area. Within 1 to 4 km of the furthest downstream CFT Legumine application site, rotenone can be neutralized with potassium permanganate at a resultant concentration equal to the concentration of CFT Legumine plus the permanganate demand of the water. Use a drip to apply a 2.5% (w/v) solution or an auger to apply granular material. Neutralization of rotenone by permanganate requires between 15 and 30 minutes contact time (travel time). Cages containing live fish can be placed at these downstream intervals to judge the effectiveness of neutralization. At water temperatures less than 5 °C, neutralization may be retarded, requiring a longer contact time.

Restocking After Treatment: Rotenone will clear from the treated area within one flushing time interval plus 24 hours. Place a sample of fish to be stocked in wire cages in the coolest part of the treated waters. If fish are not killed in 24 hours, the water may be restocked.

Warranty Statement

Our recommendations for the use of this product are based upon tests believed to be reliable. The use of this product being beyond the control of the manufacturer, no guarantee, expressed or implied, is made as to the effects of such or the results to be obtained if not used in accordance with directions or established safe practice. To the extent consistent with applicable law, the buyer must assume all responsibility, including injury or damage, resulting from its misuse as such, or in combination with other materials.