

**Contingency Plan for Accidental
Spillage of Lampricides
During Lake Champlain Sea Lamprey Control Operations**

Updated July 2015
Stephen Smith

Table of Contents

Introduction	3
Contingency Plan.....	3
Training Program	4
Packaging	4
Storage.....	4
Transport.....	4
Application.....	5
Spillage on Land.....	6
Spillage into Water	6
Reporting Spills	8
Medical Emergencies.....	10
Table 1 (Maximum estimated lampricide requirements for one treatment)	11
Literature Cited.....	13
APPENDIX A	14
Safety Data Sheets	
APPENDIX B	
Lampricide Labels	

Introduction

The U.S. Fish and Wildlife Service (USFWS), New York State Department of Environmental Conservation (NYSDEC) and the Vermont Department of Fish and Wildlife (VTDFW) plan to apply the lampricides TFM and Bayluscide to Lake Champlain tributaries and delta areas as part of an integrated, basin-wide sea lamprey control program. The NYSDEC and VTDFW, in cooperation with the U.S. Fish and Wildlife Service (USFWS), completed an experimental sea lamprey control program in 1997. The three agencies form the Lake Champlain Fish and Wildlife Management Cooperative (Cooperative). During the experimental program, TFM was used to treat 13 Lake Champlain tributaries, and Bayluscide was used to treat 5 delta areas infested with sea lamprey ammocoetes. Currently, the Cooperative is implementing a long-term sea lamprey control program using the principles of integrated pest management. However, the lampricides TFM and Bayluscide are still major components of the long-term program.

Bayluscide comes in three forms: a 3.2% granular formation, a 70% wettable powder, and a 20% emulsifiable concentrate. The 3.2% granular formation is used to treat sea lamprey infestations in delta and or deep water areas difficult to treat with TFM. The 70% and the emulsifiable formulations are used to treat large streams simultaneously with TFM. A stream treatment with the two lampricide combination results in significantly less total pesticide use resulting in cost savings and presumably shorter health advisory durations.

New York stream systems currently planned for TFM or TFM/Bayluscide treatment are the Great Chazy, Saranac, Salmon, Little Ausable, Ausable and Boquet Rivers, Beaver Brook, Mill Brook, Putnam Creek and Mount Hope Brook. Vermont stream systems currently scheduled for TFM or TFM/Bayluscide treatment are the Missisquoi, Lamoille, Winooski, LaPlatte rivers, StoneBridge Brook and Lewis Creek. The Poultney River, which borders both Vermont and New York, will also be treated. Delta treatment with 3.2% granular Bayluscide are currently planned for Mill Brook, Boquet River, Ausable/Little Ausable River, Salmon River, and Saranac River deltas.

Contingency Plan

The following contingency plan outlines procedures that would be undertaken if accidental spillage occurs during storage, transport or application of TFM or Bayluscide. In New York, an accidental spill of the contents of one or more container units must be immediately reported to the NYSDEC, Environmental Quality Unit at Ray Brook. For TFM this translates to 5 gallons (one can) or greater and for Bayluscide, 50 pounds (one bucket) or greater. In Vermont, all accidental spills must be immediately reported to the Vermont Department of Agriculture, Plant Industry Division at Montpelier. Safety data sheets for each lampricide are attached to this plan for informational purposes. The contingency plan will be on hand at all storage sites, in all transport vehicles and at all lampricide application points.

Training Program

This contingency plan will become a standard part of pre-control training program sessions for lampricide treatments. Familiarization with the various scenarios described in this plan and the implementation of prompt, responsive action(s) in each situation will be stressed. The plan will be reviewed and updated whenever it may become necessary. Copies of the contingency plan and required spill clean-up equipment and protective gear will be included on pre-treatment (transport) and treatment equipment checklists.

Packaging

TFM is a liquid formulation that is currently packaged in approximately 5 gallon heavy-duty plastic drums. Net weight of the TFM product in a drum is less than 50 pounds. Each drum contains about 16 pounds of active ingredient. TFM is also available in solid form as a plastic-sealed 2 lb bar. TFM bars contain about ½ pound of active ingredient, and are used exclusively to block small tributary streams from being used by sea lamprey to escape the treatment in the main river. Bayluscide (3.2 % Granular) is a granular formulation that has been packaged in cylindrical heavy-duty 5 gallon-sized plastic buckets or pails. Each bucket has a net weight of 50 pounds. Each bucket of Bayluscide (3.2% Granular) contains 1.6 pounds of active ingredient. The 70% wettable powder formulation is packaged in either 8 ounce or 3 pound containers with 12 and 6 containers packed per cardboard carton, respectively. Each container of the Bayluscide (70% wettable powder) contains either 0.35 or 2.1 pounds of active ingredient, depending upon container size. Emulsifiable Bayluscide (20%) is packaged in 5 liter plastic containers. New manufacturers may result in changes to the size or material used in packaging. These packaging types, moderate container sizes, self-imposed stacking restrictions, and use of pallets significantly minimizes the likelihood of accidental spillage of either lampricide during storage, transport or handling.

Storage

Pesticide storage buildings, located at the NYSDEC office in Ray Brook, New York, and at the Ed Weed Fish Culture Station in Grand Isle, Vermont serve for bulk storage of TFM and Bayluscide with capabilities to contain a substantial, accidental spill if it occurs within the storage building. These storage facilities meet New York and Vermont pesticide storage guidelines. Lampricide stockpiles are secured under lock. Local fire departments have been alerted of the presence of TFM and Bayluscide and special firefighting procedures recommended for TFM (see safety data sheet). Building placarding follows state guidelines.

Transport

Trucks will be used to transport the lampricides to TFM application points and Bayluscide loading or other application points. Only quantities of 1,000 pounds or less of TFM will be transported by any single vehicle. Neither placarding nor certification is required to transport quantities of TFM up to 1,000 pounds. However, on occasion we use a parked, on-site trailer to store quantities of TFM in excess of 1,000 lbs. When and if this occurs, the storage trailer will be placarded to alert emergency personnel of the trailer's contents in case of fire or other emergency. TFM has a DOT category shipping paper description of "Substituted nitrophenol pesticide, liquid, inflammable, toxic, N.O.S. (40% 3-trifluoromethyl-4-nitrophenol/isopropanol), 6.1, UN3013, III". (See material safety data sheets appended). Transport of Bayluscide is not currently regulated by DOT, and neither certification nor placarding are required for its transport, regardless of quantity. Each truck driver will have a copy of this plan in possession. A Shovel, broom, protective clothing, and rubber boots will also be carried on all trucks transporting lampricides and maintained at all storage, loading, and application points. In addition, each truck will carry sorbent material (e.g., Speedy Dry) in order to sufficiently react to an unexpected spill incident.

Application

The application of TFM to streams will be conducted by trained personnel of the NYSDEC, USFWS and/or VTDFW by a properly certified pesticide applicator. TFM application and monitoring

procedures insure that the chemical concentration remains within an effective and very restrictive range, as determined by bioassays and/or water chemistry parameters for individual streams. TFM containers will only be opened as needed at stream-side application points. Precautions would be taken to ensure that only potentially required quantities of TFM are transported to and stored at individual application points. As a further precaution against spillage, all mixing and product tanks capable of holding greater than 6 gallons of TFM will be placed in either a small bermed and lined containment/dike area or a rigid secondary containment vessel. Each containment system will have at least a 10% greater capacity than the primary vessel. Lampricide requirements for a single treatment are categorized by state, county and water in Table 1.

Bayluscide treatments conducted in New York waters of Lake Champlain will be directed by NYSDEC, USFWS and VTDFW personnel who are fully trained and experienced with Bayluscide treatments. Personnel from NYSDEC, VTDFW and the USFWS may assist in Bayluscide applications and in support activities for both TFM and Bayluscide treatments.

Empty TFM containers will be rinsed with an automated can washer or triple-rinsed at treatment sites. Empty TFM containers will be rendered useless and disposed of as appropriate. Lampricide dispensing equipment and gear will be thoroughly rinsed at treatment sites. Other chemical treatment procedures that would be used to insure a high degree of environmental safety are described in Section VII.A.2.a (pp. 178-188) of the Final Supplemental Environmental Impact Statement (U. S. Fish and Wildlife Service, et al. 2001) for the experimental long-term sea lamprey control program. The actions described above would ensure that the highest levels of environmental safeguards have been imposed before, during, and after lampricide treatments in Lake Champlain streams and deltas.

Spillage on Land

In the event that a major TFM spill occurs during storage, transport or at an application site, it will be important that the discharge be stopped at its source and the spilled material be contained. Shovels and other hand tools will be used for immediate containment and/or channelization of the spilled TFM into a containment area. Spillage of Bayluscide on land would be readily controlled by sweeping and shoveling by personnel taking care to avoid creating and inhaling dust. The following actions would be taken as necessary to contain and clean up a major spill on ground:

1. Stop the spillage at its source, then notify the appropriate authorities (see pp. 6-7);
2. Diking TFM in pools as appropriate;
3. Containment into piles for dry Bayluscide;
4. Diking if Bayluscide makes contact with a liquid;
5. Materials such as clay, soil, or other noncombustible, absorbent materials can be used to absorb TFM spillage;
6. Sand, clay, soil and other non-combustibles can be used to absorb dry Bayluscide or absorb liquids carrying Bayluscide; and
7. The clean-up material resulting from a TFM and/or Bayluscide spill would be stored in drums at the bulk storage site(s) for transport by a licensed hauler to a permitted hazardous waste treatment storage or disposal facility or other suitable facility.

Spillage into Water

During highway transport, as with other chemicals routinely being transported in this manner, there is a possibility of a vehicular accident over or near a waterway. In this latter instance, containment action would be initiated to prevent or minimize movement into a waterway. If major TFM spillage occurs into a stream not scheduled for immediate lampricide treatment, the following emergency actions would be initiated:

1. Immediate notification and consultation with state and/or county health office;
2. Issuance of an emergency advisory on water use at, and downstream of, the spill location. Issuance would be through local broadcast media, door-to-door contacts and postings (printed supply to be available) for unoccupied houses and conspicuous public places;
3. The emergency advisory would recommend no use of water for drinking, cooking, other household uses, swimming and fishing until further notice.
4. Emergency supplies of bottled drinking water would be distributed to affected households and bulk supplies of tanker transported water would be made available for other household uses;
5. Lampricide monitoring would be initiated to follow the chemical block and its concentration;
6. Emergency advisories regarding water consumption and household use would be in effect until 24 hours after the TFM concentration has decreased to less than 35 parts per billion (ppb). Swimming and fishing would also be prohibited until the same criteria are met;
7. Notification that advisories are lifted would be made through local radio, door-to-door contacts and removal of advisory signs.

Accidental spillage of TFM into a stream during treatment operations (very unlikely) would occur during a period when a water use advisory, water distribution and chemical monitoring activities would already be underway. In such an instance, monitoring activities and scope would be extended to ensure that the plume impact area > 20 ppb TFM did not exceed previous projections. Automatic water samplers would also be set at the intake(s) of any municipal water supply systems that might be impacted as the result of a major TFM spillage into a waterway. Should the scope of the TFM impact area expand following a major spill, water use advisories and potable water distribution areas would be expanded accordingly.

Accidental spillage of Bayluscide into waters not designated for immediate Bayluscide treatment would trigger the initiation of the following emergency actions:

1. Immediate notification and consultation with state and/or county health office;
2. Issuance of an emergency advisory on water use at, and downstream of, the spill location. Issuance would be through local broadcast media, door-to-door contacts and postings (printed supply to be available) for unoccupied houses and conspicuous public places;
3. The emergency advisory would recommend no use of water for drinking, cooking, other household uses, swimming and fishing until further notice.

4. Emergency supplies of bottled drinking water would be distributed to affected households and bulk supplies of tanker transported water would be made available for other household uses;

5. Emergency advisories regarding water consumption and household use would be in effect for 120 hours (5 days). Swimming and fishing would also be prohibited until the same criteria are met. However, harvesting of fish for consumption from impacted waters would be advised against for 14 days after the spill.

6. Notification that advisories are lifted would be made through local radio, door-to-door contacts and removal of advisory signs.

As with TFM, accidental spillage of Bayluscide in an area undergoing treatment would occur during a period when water use advisories, potable water distribution and related Bayluscide treatment activities are already underway.

Reporting Spills

Reportable spills (one or more container units) of lampricides will be reported to the following:

Spills in New York

Duty-Hours

1. Environmental Quality Office, Ray Brook, phone (518) 897-1241 or
Hotline phone (800) 457-7362.

2. New York State and appropriate County Health Officials.

a. Clinton county - Jerie Reid (Director) Office (518) 565-4840
Office (518) 565-3270 (24 hours)

b. Essex County - Jules Callaghan (NYS DOH) Office (518) 891-1800

c. Washington County - Anita Gabalski (NYS DOH) Office (518) 793-3893

Michael Shaw, Senior Sanitary Engineer or Greg Reynolds, Principal Sanitarian
Office (518) 793-3893 (inc. off hours)

d. Central Office - Jim Leach Office (518) 402-7800

Non-Duty Hours (including weekends)

1. DEC Spill Hotline, phone (800) 457-7362 and the first person below who is available:

a. Russ Huyck, Regional Spill Engineer (518) 891-4380 (home) / office: (518) 897-1242

b. Richard Wagner, P.E., Regional Engineer (518) 891-1562 (home) / office: (518) 897-1241

c. Daniel Darrah, Captain, ENCON Officer (518) 897-1326 office, (518) 593-7965cell

d. Robert Stegemann, Regional Director (518) 897-1211

2. a. New York State Health Department Duty Officer - (866) 881-2809

Additional New York Contacts (only if conditions require)

1. Saranac Lake Dispatch Center - (518) 897-1300

(NYSDEC: Non-Duty Hours)

2. State Police - Troop B - Ray Brook - (518) 897-2000

3. U.S. Coast Guard

a. Burlington Duty Hours - non-emergency (802) 951-6792

emergency contact # (ONLY if imminent danger to property or life) (802) 864-6791

b. 24 Hours - (207) 767-0303 - Command Center

4. New York State Emergency Management Office - (518) 793-6646 (Bruce Jordan);

NY State Warning Point: (518) 292-2200 (off duty hours)

Possible source of emergency water supply equipment.

Spills in Vermont

Duty-Hours

1. Vermont HAZMAT Hotline - (800) 641-5005

2. Vermont Department of Agriculture - Cary Giguere: 802- 828-2431 (Office) 802-793-1706 (cell)

3. Vermont Department of Environmental Conservation, Hazardous Materials Management Program – Office (802) 241-3888 Emergency Spill Reporting 802-828-1138

Non-Duty Hours (including weekends)

1. Vermont HAZMAT Hotline - (800) 641-5005

2. Vermont Department of Agriculture - Cary Giguere 802-793-1706 (cell)

Medical Emergencies

TFM

1. TFM-HP

Iofina Chemical Inc. 1025 Mary Laidley Drive, Covington, KY 41017

Telephone for information: 1-859-356-8000

Emergency (CHEMTREC) 24-Hr Emergency Telephone: 1-(800) 424-9300

2. TFM Bar

Iofina Chemical Inc. 1025 Mary Laidley Drive, Covington, KY 41017

Telephone for information: 1-859-356-8000

Emergency (CHEMTREC) phone - (800) 424-9300

Bayluscide

1. Bayluscide 3.2% Granular

Coating Place, Inc. 200 Paoli Street Verona, WI 53593

Telephone for Information 608-845-9521

Emergency (CHEMTREC) phone - (800) 424-9300

2. Bayluscide 70% Wettable Powder

Coating Place, Inc. 200 Paoli Street Verona, WI 53593

Telephone for Information 608-845-9521

Emergency (CHEMTREC) phone - (800) 424-9300

3. Bayluscide 20% Emulsifiable Concentrate

Coating Place, Inc. 200 Paoli Street Verona, WI 53593

Telephone for Information 608-845-9521

Emergency (CHEMTREC) phone - (800) 424-9300

Table 1. Estimated maximum lampricide requirements for one treatment.

Bayluscide (3.2% Granular)

New York Treatments	Total Weight^{1,2}	Number of Cartons	
Clinton County			
Saranac River Delta	25,000	500	
Salmon River Delta	15,000	300	
Little Ausable/ Ausable River Delta	40,000	800	
Essex County			
Boquet River Delta	25,000	500	
Mill Brook Delta	10,000	200	

TFM³

New York Treatments	Total Weight (lbs)³	Total Gallons	Number of Drums⁴
Clinton County			
Great Chazy River	7,712	800	160
Saranac River	9,640	1,000	200
Salmon River	1,446	150	30
Little Ausable River	1,928	200	40
Ausable River ⁵	5,784	600	120
Essex County			
Boquet River	3,856	400	80
Beaver Brook	96.4	10	2
Putnam Creek ⁶	1,928	200	40
Mill Brook	723	75	15
Washington County			
Mt. Hope Brook ⁷	578	60	12
Poultney River/Hubbardton ⁸	5,784	600	120

Vermont Treatments

Addison County			
Lewis Creek	2,651	275	55
Chittenden County			
Winooski River	24,100	2,500	500
Lamoille River	28,920	3,000	600
StoneBridge Brook	482	50	10
Franklin County			
Mississquoi River	16,870	1750	350

1,2,3,4,5,6,7,8 Full footnote references appear on following page.

Table 1. (continued)

- 1 Net weight of the contents of an individual Bayluscide (3.2% Granular) bucket is 50 lbs.
- 2 Weight of Bayluscide (3.2% Granular) needed is based on the maximum area that would be considered for any one treatment. Actual treatment area will be based on intensive surveys of ammocoete infestation areas on deltas and estuarine river areas using modified deepwater electrofishing gear. Only those containing ammocoetes will be treated.
- 3 TFM calculations based on maximum number of drums potentially on site for a treatment. Number of drums x 5 = total gallons of formulation. Total weight = Gallons of Formulation * 9.64(lbs formulation per gallon of TFM)
- 4 TFM drums are 14 inches high and about 11 inches on each side. The net weight of the TFM product in each drum is ~ 50 pounds. Each drum contains approximately 16.5 pounds of active ingredient and 5 gallons of formulation.
- 5 Includes Dry mill Brook requirements. The section of the Ausable River proposed for TFM treatment is in both Clinton and Essex Counties.
- 6 Includes Ranney, Cold Spring and Brevoort brooks requirements.
- 7 Includes Greenland, Spectacle, Cold Spring, and Dump brooks requirement.
- 8 Poultney River lies in both states. TFM requirements include those for the Hubbardton River.

Literature Cited

New York State Department of Environmental Conservation, U. S. Fish and Wildlife Service, and Vermont Department of Fish and Wildlife. 1990. Final Environmental Impact Statement: Use of Lampricides in a temporary program of sea lamprey control in Lake Champlain with an assessment of effects on certain fish populations and sport fisheries. NYSDEC, Ray Brook, New York. 273 pp.

U. S. Fish and Wildlife Service, Vermont Department of Fish and Wildlife, and New York State Department of Environmental Conservation. 2001. A long-term program of sea lamprey control in Lake Champlain. Final Supplemental Environmental Impact Statement FES# 01-27. Lake Champlain Fish and Wildlife Management Cooperative. 356 pp. plus appendices.

APPENDIX A

Safety Data Sheets

[Appendix A Lampricide Safety Data Sheets.pdf](#)

APPENDIX B

Lampricide Labels

[Appendix B Lampricide Labels.pdf](#)

SAFETY DATA SHEET

1. Identification

Product identifier	TFM HP Sea Lamprey Larvicide; Lamprecid® Sea Lamprey larvicide
Other means of identification	Not available.
Recommended use	Industrial use.
Recommended restrictions	None known.
Manufacturer / Importer / Supplier / Distributor information	
Manufacturer	Iofina Chemical, Inc.
Address	1025 Mary Laidley Drive, Covington, KY 41017 United States 859-356-8000
Telephone number	
Supplier	U.S. Fish and Wildlife Service
Address	1849 C Street NW Washington, D.C. 20240 United States Chemtrec (U.S.) 1-800-424-9300
Emergency telephone number	
Supplier	Department of Fisheries and Oceans Canada - Sea Lamprey Control Centre
Address	1219 Queen Street Sault Ste. Marie Ontario, Canada P6A 2E5
Emergency telephone number	Canutec (Canada) 1-613-996-6666

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 3
Health hazards	Acute toxicity, oral	Category 3
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 1
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
OSHA defined hazards	Not classified.	

Label elements



Signal word	Danger
Hazard statement	Flammable liquid and vapor. Toxic if swallowed. Causes skin irritation. Causes serious eye damage. May cause respiratory irritation. May cause drowsiness or dizziness.
Precautionary statement	
Prevention	Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing mist/vapors. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only in well-ventilated areas.
Response	If on skin: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse. If swallowed: Rinse mouth. Do NOT induce vomiting. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Wash contaminated clothing before reuse. In case of fire: Use foam, carbon dioxide, dry powder or water fog for extinction.
Storage	Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	Static accumulating flammable liquids

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
3-Trifluoromethyl-4-nitrophenol	88-30-2	20-40
Isopropyl alcohol	67-63-0	10-30
Sodium hydroxide	1310-73-2	1-10

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation	Remove victim from source of exposure. Get medical attention for any breathing difficulty.
Skin contact	Remove contaminated clothing and shoes. Wash the skin immediately with soap and water. Get medical attention if irritation develops or persists.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
Ingestion	Never give anything by mouth to a victim who is unconscious or is having convulsions. Immediately rinse mouth and drink plenty of water. Do not induce vomiting without advice from poison control center. Seek immediate medical attention.
Most important symptoms/effects, acute and delayed	Irritation of nose and throat. Irritation of eyes and mucous membranes. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	None.
Specific hazards arising from the chemical	The product is flammable, and heating may generate vapors which may form explosive vapor/air mixtures.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.
Fire-fighting equipment/instructions	Move containers from fire area if you can do it without risk.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Avoid inhalation of vapors and spray mist and contact with skin and eyes. Use personal protection as recommended in Section 8 of the SDS.
Methods and materials for containment and cleaning up	Should not be released into the environment. Remove sources of ignition. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills in original containers for re-use.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground unless authorized by permit.

7. Handling and storage

Precautions for safe handling

Avoid inhalation of vapors and contact with skin and eyes. Use appropriate Personal Protective Equipment. The product is a flammable liquid. Take the necessary precautionary measures. Follow rules for flammable liquids. Ground and bond containers when transferring material. Ground container and transfer equipment to eliminate static electric sparks. Wash at the end of each work shift and before eating, smoking and using the toilet. Change contaminated clothing. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep upright. Do not reuse containers. Store away from incompatible materials.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Isopropyl alcohol (CAS 67-63-0)	PEL	980 mg/m ³ 400 ppm
Sodium hydroxide (CAS 1310-73-2)	PEL	2 mg/m ³

US. ACGIH Threshold Limit Values

Components	Type	Value
Isopropyl alcohol (CAS 67-63-0)	STEL	400 ppm
Sodium hydroxide (CAS 1310-73-2)	TWA Ceiling	200 ppm 2 mg/m ³

US NIOSH Pocket Guide to Chemical Hazards: Ceiling Limit Value and Time Period (if specified)

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m ³

US NIOSH Pocket Guide to Chemical Hazards: Recommended exposure limit (REL)

Components	Type	Value
Isopropyl alcohol (CAS 67-63-0)	TWA	980 mg/m ³ 400 ppm

US NIOSH Pocket Guide to Chemical Hazards: Short Term Exposure Limit (STEL)

Components	Type	Value
Isopropyl alcohol (CAS 67-63-0)	STEL	1225 mg/m ³ 500 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Isopropyl alcohol (CAS 67-63-0)	40 mg/l	Acetone	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines

Use personal protective equipment as required. Keep working clothes separately.

Appropriate engineering controls

If working with material indoors: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields.

Skin protection

Hand protection

Wear protective gloves. Suitable gloves can be recommended by the glove supplier.

Other

Wear suitable protective clothing.

Respiratory protection	When engineering controls are not sufficient to lower exposure levels below the applicable exposure limit, use a NIOSH approved respirator. Seek advice from local supervisor. Selection and use of respiratory protective equipment should be in accordance with OSHA General Industry Standard 29 CFR 1910.134; or in Canada with CSA Standard Z94.4. Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance	Dark brown liquid.
Physical state	Liquid.
Form	Liquid.
Color	Dark brown.
Odor	Oily-nutty, phenolic.
Odor threshold	Not available.
pH	9
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	88.0 - 103.0 °F (31.1 - 39.4 °C)
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	23.28 cP (77°F/25°C)
Other information	
Density	1.27 g/ml

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Stable at normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Heat, sparks, flames.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides. Nitrogen oxides. Hydrogen fluoride.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Toxic if swallowed.
Inhalation	Causes respiratory tract irritation. May cause central nervous system effects.
Skin contact	Causes skin irritation.
Eye contact	Causes severe eye damage.

Symptoms related to the physical, chemical and toxicological characteristics Irritation of nose and throat. Irritation of eyes and mucous membranes. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Information on toxicological effects

Acute toxicity Toxic if swallowed.

Components	Species	Test Results
3-Trifluoromethyl-4-nitrophenol (CAS 88-30-2)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 2000 mg/kg
<i>Oral</i>		
LD50	Rat	141 mg/kg

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes severe eye damage.

Respiratory sensitization Not classified.

Skin sensitization Not a skin sensitizer.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

Reproductive toxicity Not classified.

Specific target organ toxicity - single exposure May cause respiratory irritation. May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not classified.

Further information Components of the product may be absorbed into the body through the skin.

12. Ecological information

Ecotoxicity Very toxic to aquatic organisms; may cause adverse effects in the aquatic environment.

Components	Species	Test Results
3-Trifluoromethyl-4-nitrophenol (CAS 88-30-2)		
Aquatic		
Fish	LC50	Freshwater fish
		Rainbow trout, donaldson trout (Oncorhynchus mykiss)
		0.6 - 37 mg/l
		0.842 mg/l, 96 hours
Invertebrate	LC50	Freshwater invertebrate
		3.8 - 22.3 mg/l

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Mobility in soil No data available.

Other adverse effects The product contains volatile organic compounds which have a photochemical ozone creation potential.

13. Disposal considerations

Disposal instructions This material and its container must be disposed of as hazardous waste. Dispose in accordance with all applicable regulations.

Hazardous waste code D001: Waste Flammable material with a flash point <140 °F

Waste from residues / unused products Dispose of in accordance with local regulations.

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number UN3013
UN proper shipping name Substituted nitrophenol pesticides, liquid, toxic, flammable
Transport hazard class(es) 6.1
Subsidiary class(es) 3
Packing group III
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
Special provisions T14, TP2, TP13, TP27
Packaging exceptions None
Packaging non bulk 201
Packaging bulk 243

IATA

UN number UN3013
UN proper shipping name Substituted nitrophenol pesticide, liquid, toxic, flammable
Transport hazard class(es) 6.1
Subsidiary class(es) 3
Packaging group III
Environmental hazards Yes
Labels required 6.1, 3
ERG Code 6F
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number UN3013
UN proper shipping name SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC, FLAMMABLE
Transport hazard class(es) 6.1
Subsidiary class(es) 3
Packaging group III
Environmental hazards
Marine pollutant Yes
Labels required 6.1, 3
EmS F-E, S-D
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code This substance/mixture is not intended to be transported in bulk.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. This material is not listed on the US TSCA 8(b) Inventory, and is exempt because it is FIFRA regulated.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Sodium hydroxide (CAS 1310-73-2) LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance No

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting) Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Food and Drug Administration (FDA) Not regulated.

US state regulations

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US. Massachusetts RTK - Substance List

Isopropyl alcohol (CAS 67-63-0)
Sodium hydroxide (CAS 1310-73-2)

US. New Jersey Worker and Community Right-to-Know Act

Isopropyl alcohol (CAS 67-63-0) 500 lbs

US. Pennsylvania RTK - Hazardous Substances

Isopropyl alcohol (CAS 67-63-0)
Sodium hydroxide (CAS 1310-73-2)

US. Rhode Island RTK

Isopropyl alcohol (CAS 67-63-0)
Sodium hydroxide (CAS 1310-73-2)

US. California Proposition 65

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Not listed.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

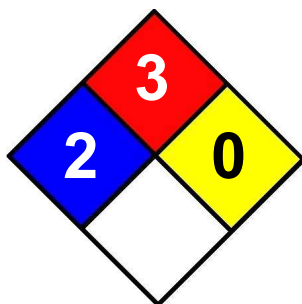
16. Other information, including date of preparation or last revision

Issue date 28-October-2013

Revision date -

Version # 01

NFPA Ratings



References

- EPA: ACQUIRE database
- NLM: Hazardous Substances Data Base
- US. IARC Monographs on Occupational Exposures to Chemical Agents
- HSDB® - Hazardous Substances Data Bank
- IARC Monographs. Overall Evaluation of Carcinogenicity
- National Toxicology Program (NTP) Report on Carcinogens
- ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices

Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available.

SAFETY DATA SHEET

1. Identification

Product identifier TFM Bar
Other means of identification Not available.
Recommended use Industrial use.
Recommended restrictions None known.

Manufacturer / Importer / Supplier / Distributor information

Manufacturer Iofina Chemical, Inc.
Address 1025 Mary Laidley Drive, Covington, KY 41017
United States

Telephone number 859-356-8000
Supplier U.S. Fish and Wildlife Service
Address 1849 C Street NW Washington, D.C. 20240
United States

Emergency telephone number Chemtrec (U.S.) 1-800-424-9300

Supplier Department of Fisheries and Oceans Canada - Sea Lamprey Control Centre
Address 1219 Queen Street Sault Ste. Marie Ontario, Canada P6A 2E5
Emergency telephone number Canutec (Canada) 1-613-996-6666

2. Hazard(s) identification

Physical hazards Not classified.
Health hazards Acute toxicity, oral Category 4
Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 1
Specific target organ toxicity, single exposure Category 3 respiratory tract irritation
OSHA defined hazards Not classified.

Label elements



Signal word Danger
Hazard statement Harmful if swallowed. Causes skin irritation. Causes serious eye damage. May cause respiratory irritation.
Precautionary statement
Prevention Avoid breathing dust. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area.
Response If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. If on skin: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell.
Storage Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC) Not classified.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Oxirane, 2-methyl-, Polymer With Oxirane	9003-11-6	42-46
3-trifluoromethyl-4-nitrophenol	88-30-2	22-24
Alcohols, C16-18, ethoxylated	68439-49-6	15-17
Nonylphenol, ethoxylated	9016-45-9	15-17

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation	Remove victim from source of exposure. Get medical attention for any breathing difficulty.
Skin contact	Remove contaminated clothes and rinse skin thoroughly with water for at least 15 minutes. Get medical attention if irritation develops or persists.
Eye contact	Do not rub eyes. Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
Ingestion	Never give anything by mouth to a victim who is unconscious or is having convulsions. Immediately rinse mouth and drink plenty of water. Do not induce vomiting without advice from poison control center. Seek immediate medical attention.
Most important symptoms/effects, acute and delayed	Irritation of nose and throat. Irritation of eyes and mucous membranes. Skin irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	None.
Specific hazards arising from the chemical	The product is not flammable. Will burn if involved in a fire.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.
Fire-fighting equipment/instructions	Move containers from fire area if you can do it without risk.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Avoid inhalation of dust and contact with skin and eyes. Use personal protection recommended in Section 8 of the SDS.
Methods and materials for containment and cleaning up	Shovel into dry containers. Cover and move the containers. Flush the area with water. Ventilate the area. Clean up in accordance with all applicable regulations.

7. Handling and storage

Precautions for safe handling	Avoid inhalation of dust and contact with skin and eyes. Wash at the end of each work shift and before eating, smoking and using the toilet. Change contaminated clothing. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Keep upright. Store in tightly closed original container in a dry, cool and well-ventilated place. Protect from direct sunlight. Store away from incompatible materials. Do not reuse containers.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
3-trifluoromethyl-4-nitrophenol (CAS SEQ250)	PEL	5 mg/m ³	Respirable fraction.
		15 mg/m ³	Total dust.

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
3-trifluoromethyl-4-nitro phenol (CAS SEQ250)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 millions of particle	Total dust.
		15 millions of particle	Respirable fraction.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
3-trifluoromethyl-4-nitro phenol (CAS SEQ250)	TWA	3 mg/m3	Respirable particles.
		10 mg/m3	Inhalable particles.

Biological limit values	No biological exposure limits noted for the ingredient(s).
Exposure guidelines	Use personal protective equipment as required. Keep working clothes separately.
Appropriate engineering controls	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields.
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.
Other	Wear suitable protective clothing.
Respiratory protection	When engineering controls are not sufficient to lower exposure levels below the applicable exposure limit, use a NIOSH approved respirator. Seek advice from local supervisor. Selection and use of respiratory protective equipment should be in accordance with OSHA General Industry Standard 29 CFR 1910.134; or in Canada with CSA Standard Z94.4. Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.
Thermal hazards	Not applicable.
General hygiene considerations	Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance	Light brown solid.
Physical state	Solid.
Form	Solid bars.
Color	Light brown.
Odor	Metallic.
Odor threshold	Not available.
pH	3.81
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.

Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	1.19
Solubility(ies)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Stable at normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	None under normal conditions.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides. Nitrogen oxides. Hydrogen fluoride.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Harmful if swallowed.
Inhalation	Irritating to respiratory system.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye damage.

Symptoms related to the physical, chemical and toxicological characteristics Irritation of nose and throat. Irritation of eyes and mucous membranes. Skin irritation.

Information on toxicological effects

Acute toxicity Harmful if swallowed.

Components	Species	Test Results
3-trifluoromethyl-4-nitrophenol (CAS 88-30-2)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 2000 mg/kg
<i>Oral</i>		
LD50	Rat	141 mg/kg
Oxirane, 2-methyl-, Polymer With Oxirane (CAS 9003-11-6)		
Acute		
<i>Oral</i>		
LD50	Rat	> 2000 mg/kg
Skin corrosion/irritation	Causes skin irritation.	
Serious eye damage/eye irritation	Causes serious eye damage.	
Respiratory sensitization	Not classified.	
Skin sensitization	Not a skin sensitizer.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.	
Reproductive toxicity	Not classified.	
Specific target organ toxicity - single exposure	May cause respiratory irritation.	

Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not classified.
Further information	No other specific acute or chronic health impact noted.

12. Ecological information

Ecotoxicity Toxic to aquatic life. Due to the form of the product the environmental hazard is considered to be limited.

Components		Species	Test Results
3-trifluoromethyl-4-nitrophenol (CAS 88-30-2)			
Aquatic			
Fish	LC50	Freshwater fish	0.6 - 37 mg/l
		Rainbow trout, donaldson trout (Oncorhynchus mykiss)	0.842 mg/l, 96 hours
Invertebrate	LC50	Freshwater invertebrate	3.8 - 22.3 mg/l
Nonylphenol, ethoxylated (CAS 9016-45-9)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	12.2 mg/l, 48 hours
Fish	LC50	Bluegill (Lepomis macrochirus)	1 - 1.8 mg/l, 96 hours
Oxirane, 2-methyl-, Polymer With Oxirane (CAS 9003-11-6)			
Aquatic			
Crustacea	EC50	Invertebrates (Invertebrates)	> 100 mg/l, 48 hours
Fish	LC50	Fish	> 100 mg/l, 96 hours

Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

13. Disposal considerations

Disposal instructions	This material and its container must be disposed of as hazardous waste. Dispose in accordance with all applicable regulations.
Hazardous waste code	Not regulated.
Waste from residues / unused products	Dispose of in accordance with local regulations.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as a hazardous material by DOT.

IATA

Not regulated as a dangerous good.

IMDG

Not regulated as a dangerous good.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code This substance/mixture is not intended to be transported in bulk.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. This material is not listed on the US TSCA 8(b) Inventory, and is exempt because it is FIFRA regulated.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance No

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)
Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Food and Drug Administration (FDA) Not regulated.

US state regulations

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not regulated.

US. Pennsylvania RTK - Hazardous Substances

Not regulated.

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Not listed.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

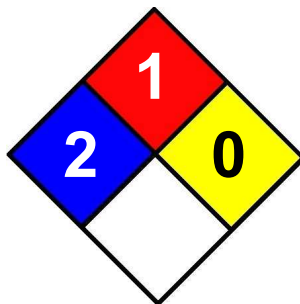
16. Other information, including date of preparation or last revision

Issue date 26-November-2013

Revision date -

Version # 01

NFPA Ratings



References

EPA: AQUIRE database
NLM: Hazardous Substances Data Base
US. IARC Monographs on Occupational Exposures to Chemical Agents
HSDB® - Hazardous Substances Data Bank
IARC Monographs. Overall Evaluation of Carcinogenicity
National Toxicology Program (NTP) Report on Carcinogens
ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices

Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available.

SAFETY DATA SHEET

1. Identification

Product identifier Bayluscide Technical; Bay 73 Technical
Other means of identification Not available.
Recommended use Industrial use.
Recommended restrictions None known.
Manufacturer / Importer / Supplier / Distributor information
Supplier U.S. Fish and Wildlife Service
Address 1849 C Street NW Washington, D.C. 20240
United States
Emergency telephone number Chemtrec (U.S.) 1-800-424-9300
Canutec (Canada) 1-613-996-6666

2. Hazard(s) identification

Physical hazards Not classified.
Health hazards Acute toxicity, inhalation Category 4
Serious eye damage/eye irritation Category 2A
OSHA defined hazards Not classified.

Label elements



Signal word Warning
Hazard statement Causes serious eye irritation. Harmful if inhaled.
Precautionary statement
Prevention Avoid breathing dust. Wear eye/face protection. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area.
Response If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Storage Store away from incompatible materials.
Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC) Not classified.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Niclosamide ethanolamine salt	1420-04-8	>95.4
2-chloro-4-nitroaniline	121-87-9	0.4-1.5
5-chloro-2-hydroxybenzoic acid	321-14-2	0.15-1.5

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation Remove victim to fresh air. If breathing is difficult, give oxygen. Get medical attention.
Skin contact Remove contaminated clothing and shoes. Wash the skin immediately with soap and water. Get medical attention if irritation develops and persists.
Eye contact Do not rub eyes. Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention immediately.

Ingestion	Never give anything by mouth to a victim who is unconscious or is having convulsions. Immediately rinse mouth and drink plenty of water or milk. Keep person under observation. Do not induce vomiting. If vomiting occurs, keep head low. Seek immediate medical attention or advice.
Most important symptoms/effects, acute and delayed	Irritation of eyes and mucous membranes. Irritation of nose and throat. Cough. Skin irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Dry chemical powder, water spray.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.
Fire-fighting equipment/instructions	Move containers from fire area if you can do so without risk.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Avoid inhalation of dust and contact with skin and eyes. Use personal protection as recommended in Section 8 of the SDS.
Methods and materials for containment and cleaning up	Cover with plastic sheet to prevent spreading. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Nonsparking tools should be used. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water. Ventilate the area. Clean up in accordance with all applicable regulations.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground unless authorized by permit.

7. Handling and storage

Precautions for safe handling	Avoid inhalation of dust and contact with skin and eyes. Minimize dust generation and accumulation. Add material slowly when mixing with water. Do not add water to the material; instead, add the material to the water. Wash at the end of each work shift and before eating, smoking and using the toilet. Change contaminated clothing. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Keep upright. Store in tightly closed original container in a dry, cool and well-ventilated place. Protect from direct sunlight. Store away from incompatible materials. Do not reuse containers. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, for safe handling.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Niclosamide ethanolamine salt (CAS 1420-04-8)	PEL	5 mg/m ³	Respirable fraction.
		15 mg/m ³	Total dust.

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
Niclosamide ethanolamine salt (CAS 1420-04-8)	TWA	5 mg/m ³	Respirable fraction.
		15 mg/m ³	Total dust.

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
		50 millions of particle	Total dust.
		15 millions of particle	Respirable fraction.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Niclosamide ethanolamine salt (CAS 1420-04-8)	TWA	3 mg/m3	Respirable particles.
		10 mg/m3	Inhalable particles.

Biological limit values	No biological exposure limits noted for the ingredient(s).
Exposure guidelines	Use personal protective equipment as required. Keep working clothes separately. No exposure standards allocated.
Appropriate engineering controls	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields.
Skin protection	
Hand protection	Wear protective gloves.
Other	Normal work clothing (long sleeved shirts and long pants) is recommended.
Respiratory protection	Use a NIOSH-approved respirator if there is a potential for exposure to dust exceeding exposure limits (See 29 CFR 1910.134, respiratory protection standard). Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.
Thermal hazards	Not applicable.
General hygiene considerations	Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance	Bright yellow (with faint green tint) solid.
Physical state	Solid.
Form	Solid.
Color	Bright yellow (with faint green tint).
Odor	Metallic.
Odor threshold	20 (on a scale of 1 to 100)
pH	9.27 (1% aqueous solution at 23°C/73°F)
Melting point/freezing point	408 - 419 °F (208.89 - 215 °C)
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.

Explosive limit - upper (%)	Not available.
Vapor pressure	<0.00001 Pa (25°C/77°F)
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	0.0283 g/l (20°C/68°F) in water.
Partition coefficient (n-octanol/water)	5.33 LogKow
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Bulk density	0.45 g/ml (23°C/73°F)

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Stable at normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Heat.
Incompatible materials	Strong acids. Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides. Nitrogen oxides. Hydrogen chloride.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Ingestion may cause irritation and malaise.
Inhalation	Harmful if inhaled.
Skin contact	Dust may irritate skin.
Eye contact	Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics Irritation of eyes and mucous membranes. Irritation of nose and throat. Cough. Skin irritation.

Information on toxicological effects

Acute toxicity Harmful if inhaled.

Components	Species	Test Results
2-chloro-4-nitroaniline (CAS 121-87-9)		
Acute		
<i>Oral</i>		
LD50	Mouse	1250 mg/kg
	Rat	6430 mg/kg
Niclosamide ethanolamine salt (CAS 1420-04-8)		
Acute		
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg
Skin corrosion/irritation	Not classified.	
Serious eye damage/eye irritation	Causes serious eye irritation.	
Respiratory sensitization	No data available.	
Skin sensitization	Not a skin sensitizer.	
Germ cell mutagenicity	Niclosamide ethanolamine salt: Ames test: Negative.	
Carcinogenicity	Not classifiable as to carcinogenicity to humans.	
Reproductive toxicity	Knowledge about reproductive effects is incomplete.	
Specific target organ toxicity - single exposure	No data available.	

Specific target organ toxicity - repeated exposure	No data available.
Aspiration hazard	Not classified.
Chronic effects	Frequent inhalation of dust over a long period of time increases the risk of developing lung diseases.
Further information	Contains 2-chloro-4-nitroaniline: may cause transformation of hemoglobin to methemoglobin, nitrosulfhemoglobin, sulfhemoglobin and a decrease in oxyhemoglobin in animal studies.

12. Ecological information

Ecotoxicity Very toxic to aquatic life.

Components		Species	Test Results
2-chloro-4-nitroaniline (CAS 121-87-9)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	1.4 - 2 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	17.7 - 20.2 mg/l, 96 hours
Niclosamide ethanolamine salt (CAS 1420-04-8)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	0.14 - 0.27 mg/l, 48 hours
	LC50	Daphnia	0.38 mg/l, (70% niclosamide ethanolamine salt mixture)
Fish	LC50	Channel catfish (Ictalurus punctatus)	0.035 - 0.051 mg/l, 96 hours
		Rainbow Trout	0.34 mg/l, 96 Hours, (70% niclosamide ethanolamine salt mixture)

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential Has moderate potential to bioaccumulate. BCF: 45.

Partition coefficient n-octanol / water (log Kow)

Bayluscide Technical; Bay 73 Technical (CAS Mixture) 5.33, LogKow

Mobility in soil Niclosamide ethanolamine salt: Estimated Koc = 350. Moderate soil mobility.

Other adverse effects An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

13. Disposal considerations

Disposal instructions This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazardous waste code Not regulated.

Waste from residues / unused products Dispose in accordance with all applicable regulations.

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number	UN3077
UN proper shipping name	Environmentally hazardous substances, solid, n.o.s.
Transport hazard class(es)	9
Subsidiary class(es)	-
Packing group	III
Environmental hazards	
Marine pollutant	Yes
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	8, 146, 335, A112, B54, IB8, IP3, N20, T1, TP33
Packaging exceptions	155
Packaging non bulk	213
Packaging bulk	240

IATA

UN number	UN3077
UN proper shipping name	Environmentally hazardous substance, solid, n.o.s.
Transport hazard class(es)	9
Subsidiary class(es)	-
Packaging group	III
Environmental hazards	No

Labels required Not available.
ERG Code 9L

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number UN3077
UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Transport hazard class(es) 9
Subsidiary class(es) -
Packaging group III
Environmental hazards

Marine pollutant Yes

Labels required Not available.

EmS F-A, S-F

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code This substance/mixture is not intended to be transported in bulk.

15. Regulatory information

US federal regulations This product is hazardous according to OSHA 29 CFR 1910.1200. This material is not listed on the US TSCA 8(b) Inventory, and is exempt because it is FIFRA regulated.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance No

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)
Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Food and Drug Administration (FDA) Not regulated.

US state regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US. Massachusetts RTK - Substance List

Niclosamide ethanolamine salt (CAS 1420-04-8)

US. New Jersey Worker and Community Right-to-Know Act

Not regulated.

US. Pennsylvania RTK - Hazardous Substances

Niclosamide ethanolamine salt (CAS 1420-04-8)

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Not listed.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

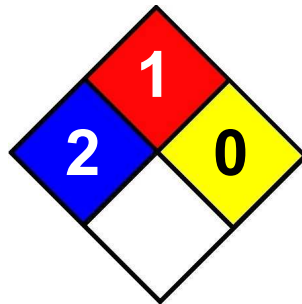
16. Other information, including date of preparation or last revision

Issue date 28-October-2013

Revision date -

Version # 01

NFPA Ratings



References

- EPA: AQUIRE database
- NLM: Hazardous Substances Data Base
- US. IARC Monographs on Occupational Exposures to Chemical Agents
- HSDB® - Hazardous Substances Data Bank
- IARC Monographs. Overall Evaluation of Carcinogenicity
- National Toxicology Program (NTP) Report on Carcinogens
- ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices

Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available.

SAFETY DATA SHEET

1. Identification

Product identifier	Bayluscide 20% Emulsifiable Concentrate; Bayluscide Emulsifiable Concentrate Lampricide
Other means of identification	Not available.
Synonyms	Niclosamide ethanolamine salt mixture; clonitralide mixture
Recommended use	Industrial use.
Recommended restrictions	None known.
Manufacturer / Importer / Supplier / Distributor information	
Manufacturer	Coating Place, Inc.
Address	200 Paoli Street Verona, WI 53593 United States
Telephone number	608-845-9521
Supplier	U.S. Fish and Wildlife Service
Address	1849 C Street NW Washington, D.C. 20240 United States
Emergency telephone number	Chemtrec (U.S.) 1-800-424-9300
Supplier	Department of Fisheries and Oceans Canada - Sea Lamprey Control Centre
Address	1219 Queen Street Sault Ste. Marie Ontario, Canada P6A 2E5
Emergency telephone number	Canutec (Canada) 1-613-996-6666

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 1
	Carcinogenicity	Category 2
	Reproductive toxicity	Category 1B
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, repeated exposure	Category 2 (kidney, liver)
OSHA defined hazards	Not classified.	
Label elements		



Signal word	Danger
Hazard statement	Causes skin irritation. Causes serious eye damage. Suspected of causing cancer. May damage the unborn child. May cause respiratory irritation. May cause damage to organs (kidney, liver) through prolonged or repeated exposure.
Precautionary statement	
Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing mist. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area.
Response	If exposed or concerned: Get medical advice/attention. If on skin: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	Not classified.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
1-Methyl-2-pyrrolidinone	872-50-4	64-68
Niclosamide ethanolamine salt	1420-04-8	16-18
Coconut oil, reaction products with diethanolamine	8051-30-7	12-14
Diethanolamine	111-42-2	1.1-1.3

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation	Remove victim to fresh air. If breathing is difficult, give oxygen. Get medical attention.
Skin contact	Remove contaminated clothing and shoes. Wash the skin immediately with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention immediately.
Ingestion	Never give anything by mouth to a victim who is unconscious or is having convulsions. Immediately rinse mouth and drink plenty of water or milk. Keep person under observation. Do not induce vomiting. If vomiting occurs, keep head low. Seek immediate medical attention or advice.
Most important symptoms/effects, acute and delayed	Symptoms include itching, burning, redness, and tearing of eyes. Irritation of nose and throat. Cough. Skin irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Dry chemical powder, water spray.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	The product is not flammable. By heating and fire, toxic vapors/gases may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.
Fire-fighting equipment/instructions	Move containers from fire area if you can do so without risk.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Avoid inhalation of mist and contact with skin and eyes. For personal protection, see Section 8 of the SDS.
Methods and materials for containment and cleaning up	Keep unnecessary personnel away. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills in original containers for re-use.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground unless authorized by permit.

7. Handling and storage

Precautions for safe handling	Avoid inhalation of mist and contact with skin and eyes. Avoid contact during pregnancy/while nursing. Do not smoke and do not spray near a naked flame or other sources of ignition. Wash at the end of each work shift and before eating, smoking and using the toilet. Change contaminated clothing. Observe good industrial hygiene practices.
--------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Conditions for safe storage, including any incompatibilities Keep upright. Store in tightly closed original container in a dry, cool and well-ventilated place. Protect from direct sunlight. Store away from incompatible materials. Do not reuse containers.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Niclosamide ethanolamine salt (CAS 1420-04-8)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
Niclosamide ethanolamine salt (CAS 1420-04-8)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 millions of particle	Total dust.
		15 millions of particle	Respirable fraction.

ACGIH

Components	Type	Value	Form
Diethanolamine (CAS 111-42-2)	STEL	0.2 ppm	Inhalable fraction and vapor.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Diethanolamine (CAS 111-42-2)	TWA	1 mg/m3	Inhalable fraction and vapor.
		3 mg/m3	Respirable particles.
Niclosamide ethanolamine salt (CAS 1420-04-8)	TWA	10 mg/m3	Inhalable particles.

US NIOSH Pocket Guide to Chemical Hazards: Recommended exposure limit (REL)

Components	Type	Value
Diethanolamine (CAS 111-42-2)	TWA	15 mg/m3
		3 ppm

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
1-Methyl-2-pyrrolidinone (CAS 872-50-4)	TWA	40 mg/m3
		10 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
1-Methyl-2-pyrrolidinone (CAS 872-50-4)	100 mg/l	5-Hydroxy-N-methyl-2-pyrrolidinone	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

Diethanolamine (CAS 111-42-2) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Diethanolamine (CAS 111-42-2) Can be absorbed through the skin.

US WEEL Guides: Skin designation

1-Methyl-2-pyrrolidinone (CAS 872-50-4) Can be absorbed through the skin.

Appropriate engineering controls

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields.

Skin protection	
Hand protection	Wear protective gloves.
Other	Normal work clothing (long sleeved shirts and long pants) is recommended.
Respiratory protection	If airborne concentrations exceed applicable exposure limits (PEL), wear NIOSH-approved respirators to maintain exposures below the PEL. Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.
Thermal hazards	Not applicable.
General hygiene considerations	Observe any medical surveillance requirements. Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance	Dark yellow-red liquid.
Physical state	Liquid.
Form	Liquid.
Color	Dark yellow-red.
Odor	Metallic.
Odor threshold	Not available.
pH	9.8 1% suspension at 77°F (25°C)
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	201.6 °F (94.2 °C)
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	1.09 68°F (20°C)
Solubility(ies)	Not applicable.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	12.2 cps average at 30 RPM at 68°F (20°C)

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Stable at normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Heat.
Incompatible materials	Strong alkalis. Strong acids. Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides. Nitrogen oxides. Ammonia. Hydrogen chloride.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Ingestion may cause irritation and malaise.
Inhalation	Vapors and mist may irritate throat and respiratory system and cause coughing.

Skin contact	Causes skin irritation.
Eye contact	Causes serious eye damage.
Symptoms related to the physical, chemical and toxicological characteristics	Symptoms include itching, burning, redness, and tearing of eyes. Irritation of nose and throat. Cough. Skin irritation.

Information on toxicological effects

Acute toxicity Ingestion may cause irritation and malaise.

Components	Species	Test Results
1-Methyl-2-pyrrolidinone (CAS 872-50-4)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	8000 mg/kg
<i>Inhalation</i>		
LC50	Rat	> 5.1 mg/l
<i>Oral</i>		
LD50	Rat	3914 mg/kg
Diethanolamine (CAS 111-42-2)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	11.9 ml/kg
<i>Oral</i>		
LD50	Rat	710 mg/kg
Niclosamide ethanolamine salt (CAS 1420-04-8)		
Acute		
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye damage.
Respiratory sensitization	No data available.
Skin sensitization	Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
Germ cell mutagenicity	Niclosamide ethanolamine salt: Ames test: Negative.
Carcinogenicity	Suspected of causing cancer.
IARC Monographs. Overall Evaluation of Carcinogenicity	
Diethanolamine (CAS 111-42-2)	2B Possibly carcinogenic to humans.
Reproductive toxicity	May damage the unborn child. Avoid contact during pregnancy/while nursing.
Specific target organ toxicity - single exposure	May cause respiratory irritation.
Specific target organ toxicity - repeated exposure	May cause damage to organs (kidney, liver) through prolonged or repeated exposure.
Aspiration hazard	No data available.

12. Ecological information

Components	Species	Test Results
Ecotoxicity Toxic to aquatic life.		
1-Methyl-2-pyrrolidinone (CAS 872-50-4)		
Aquatic		
Crustacea	EC50	Daphnia magna > 1000 mg/l, 24 hours
Diethanolamine (CAS 111-42-2)		
Aquatic		
Crustacea	EC50	Water flea (Ceriodaphnia dubia) 61.8 - 86.04 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas) >= 100 mg/l, 96 hours

Components	Species		Test Results
Niclosamide ethanolamine salt (CAS 1420-04-8)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	0.14 - 0.27 mg/l, 48 hours
	LC50	Daphnia	0.38 mg/l, (70% niclosamide ethanolamine salt mixture)
Fish	LC50	Channel catfish (Ictalurus punctatus)	0.035 - 0.051 mg/l, 96 hours
		Rainbow Trout	0.34 mg/l, 96 Hours, (70% niclosamide ethanolamine salt mixture)

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential Niclosamide ethanolamine salt: BCF: 46 Has moderate potential to bioaccumulate.

Partition coefficient n-octanol / water (log Kow)

1-Methyl-2-pyrrolidinone (CAS 872-50-4)	-0.54
Diethanolamine (CAS 111-42-2)	-1.43

Mobility in soil The product is partly miscible with water and may spread in the aquatic environment. Niclosamide ethanolamine salt: Estimated Koc = 350. Moderate soil mobility.

Other adverse effects An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

13. Disposal considerations

Disposal instructions This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazardous waste code Not regulated.

Waste from residues / unused products Dispose in accordance with all applicable regulations.

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT
Not regulated as a hazardous material by DOT.

IATA
Not regulated as a dangerous good.

IMDG
Not regulated as a dangerous good.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code This substance/mixture is not intended to be transported in bulk.

15. Regulatory information

US federal regulations This product is hazardous according to OSHA 29 CFR 1910.1200. This material is not listed on the US TSCA 8(b) Inventory, and is exempt because it is FIFRA regulated.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)
Diethanolamine (CAS 111-42-2) LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance No

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
1-Methyl-2-pyrrolidinone	872-50-4	64-68
Diethanolamine	111-42-2	1.1-1.3

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Diethanolamine (CAS 111-42-2)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

Food and Drug Administration (FDA)

Not regulated.

US state regulations

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

US. Massachusetts RTK - Substance List

1-Methyl-2-pyrrolidinone (CAS 872-50-4)

Diethanolamine (CAS 111-42-2)

Niclosamide ethanolamine salt (CAS 1420-04-8)

US. New Jersey Worker and Community Right-to-Know Act

1-Methyl-2-pyrrolidinone (CAS 872-50-4)

500 lbs

Diethanolamine (CAS 111-42-2)

500 lbs

US. Pennsylvania RTK - Hazardous Substances

1-Methyl-2-pyrrolidinone (CAS 872-50-4)

Diethanolamine (CAS 111-42-2)

Niclosamide ethanolamine salt (CAS 1420-04-8)

US. Rhode Island RTK

1-Methyl-2-pyrrolidinone (CAS 872-50-4)

Diethanolamine (CAS 111-42-2)

US. California Proposition 65**US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance**

1-Methyl-2-pyrrolidinone (CAS 872-50-4)

Diethanolamine (CAS 111-42-2)

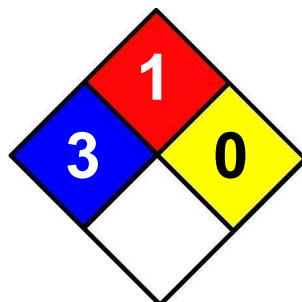
International Inventories**Country(s) or region****Inventory name****On inventory (yes/no)***

United States & Puerto Rico Toxic Substances Control Act (TSCA) Inventory

No

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision**Issue date** 28-October-2013**Revision date** -**Version #** 01**NFPA Ratings****References**

EPA: AQUIRE database

NLM: Hazardous Substances Data Base

US. IARC Monographs on Occupational Exposures to Chemical Agents

HSDB® - Hazardous Substances Data Bank

IARC Monographs. Overall Evaluation of Carcinogenicity

National Toxicology Program (NTP) Report on Carcinogens

ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices

Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available.

SAFETY DATA SHEET

1. Identification

Product identifier Bayluscide 3.2% Granular Sea Lamprey Larvicide; Bayluscide Granular Sea Lamprey Larvicide.

Other means of identification Not available.

Synonyms Niclosamide ethanolamine salt mixture; clonitralide mixture

Recommended use Industrial use.

Recommended restrictions None known.

Manufacturer / Importer / Supplier / Distributor information

Manufacturer Coating Place, Inc.
Address 200 Paoli Street Verona, WI 53593
United States

Telephone number 608-845-9521
Supplier U.S. Fish and Wildlife Service
Address 1849 C Street NW Washington, D.C. 20240
United States

Emergency telephone number Chemtrec (U.S.) 1-800-424-9300

Supplier Department of Fisheries and Oceans Canada - Sea Lamprey Control Centre
Address 1219 Queen Street Sault Ste. Marie Ontario, Canada P6A 2E5
Emergency telephone number Canutec (Canada) 1-613-996-6666

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement The mixture does not meet the criteria for classification.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) Not classified.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Silicon dioxide	7631-86-9	68-72
Polyoxyethylene-polyoxypropylene block copolymer	9003-11-6	18-20
Ethyl cellulose	9004-57-3	4
Niclosamide ethanolamine salt	1420-04-8	3-3.6
Hydroxypropyl cellulose salt	9004-64-2	2

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation	Remove victim to fresh air. Get medical attention if symptoms persist.
Skin contact	Remove contaminated clothing and shoes. Wash the skin immediately with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if irritation develops and persists.
Ingestion	Never give anything by mouth to a victim who is unconscious or is having convulsions. Immediately rinse mouth and drink plenty of water or milk. Keep person under observation. Do not induce vomiting. If vomiting occurs, keep head low. Seek immediate medical attention or advice.
Most important symptoms/effects, acute and delayed	Irritation of eyes and mucous membranes. Irritation of nose and throat. Cough. Skin irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Dry chemical powder, water spray.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	The product is not flammable. By heating and fire, toxic vapors/gases may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.
Fire-fighting equipment/instructions	Move containers from fire area if you can do so without risk.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Avoid inhalation of dust and contact with skin and eyes. Use personal protection as recommended in Section 8 of the SDS.
Methods and materials for containment and cleaning up	Cover with plastic sheet to prevent spreading. With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. Following product recovery, flush area with water. Ventilate the area. Clean up in accordance with all applicable regulations.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground unless authorized by permit.

7. Handling and storage

Precautions for safe handling	Avoid inhalation of dust and contact with skin and eyes. Wash at the end of each work shift and before eating, smoking and using the toilet. Change contaminated clothing. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Keep upright. Store in tightly closed original container in a dry, cool and well-ventilated place. Protect from direct sunlight. Store away from incompatible materials. Do not reuse containers.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Niclosamide ethanolamine salt (CAS 1420-04-8)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
Niclosamide ethanolamine salt (CAS 1420-04-8)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 millions of particle	Total dust.

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
Silicon dioxide (CAS 7631-86-9)	TWA	15 millions of particle	Respirable fraction.
		0.8 mg/m3	
		20 mppcf	

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Niclosamide ethanolamine salt (CAS 1420-04-8)	TWA	3 mg/m3	Respirable particles.
		10 mg/m3	Inhalable particles.

US NIOSH Pocket Guide to Chemical Hazards: Recommended exposure limit (REL)

Components	Type	Value
Silicon dioxide (CAS 7631-86-9)	TWA	6 mg/m3

Biological limit values	No biological exposure limits noted for the ingredient(s).
Exposure guidelines	Use personal protective equipment as required. Keep working clothes separately. No exposure standards allocated.
Appropriate engineering controls	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields.
Skin protection	
Hand protection	Wear protective gloves.
Other	Normal work clothing (long sleeved shirts and long pants) is recommended.
Respiratory protection	Use a NIOSH–approved respirator if there is a potential for exposure to dust exceeding exposure limits (See 29 CFR 1910.134, respiratory protection standard). Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.
Thermal hazards	Not applicable.
General hygiene considerations	Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance	Dark yellow. Granules.
Physical state	Solid.
Form	Granules.
Color	Dark yellow.
Odor	Cresol-like.
Odor threshold	Not available.
pH	9.05 (1% aqueous solution at 78.8°F/26°C)
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.

Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	6.9 x 10-13 mm Hg at 68°F/20°C
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	Completely Soluble (100%) 11 ppm at pH 8.9 (for Niclosamide).
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not applicable.
Other information	
Bulk density	1.26 g/ml

10. Stability and reactivity

Reactivity	Stable at normal conditions. None known.
Chemical stability	Stable at normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Heat.
Incompatible materials	Strong alkalis. Strong acids. Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides. Nitrogen oxides. Ammonia. Hydrogen chloride.

11. Toxicological information

Information on likely routes of exposure

Ingestion	May cause discomfort if swallowed.
Inhalation	Inhalation of dusts may cause respiratory irritation.
Skin contact	May cause skin irritation.
Eye contact	May cause eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics Irritation of eyes and mucous membranes. Irritation of nose and throat. Cough. Skin irritation.

Information on toxicological effects

Acute toxicity Ingestion may cause irritation and malaise.

Components	Species	Test Results
Hydroxypropyl cellulose salt (CAS 9004-64-2)		
Acute		
<i>Oral</i>		
LD50	Rat	10200 mg/kg
Niclosamide ethanolamine salt (CAS 1420-04-8)		
Acute		
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg
Polyoxyethylene-polyoxypropylene block copolymer (CAS 9003-11-6)		
Acute		
<i>Oral</i>		
LD50	Rat	> 2000 mg/kg
Skin corrosion/irritation	Not classified.	
Serious eye damage/eye irritation	Not classified.	
Respiratory sensitization	No data available.	
Skin sensitization	Not a skin sensitizer.	
Germ cell mutagenicity	Niclosamide ethanolamine salt: Ames test: Negative.	

Carcinogenicity	Not classifiable as to carcinogenicity to humans.
IARC Monographs. Overall Evaluation of Carcinogenicity	
Silicon dioxide (CAS 7631-86-9)	3 Not classifiable as to carcinogenicity to humans.
Reproductive toxicity	Knowledge about reproductive effects is incomplete.
Specific target organ toxicity - single exposure	No data available.
Specific target organ toxicity - repeated exposure	No data available.
Aspiration hazard	Not classified.
Chronic effects	Frequent inhalation of dust over a long period of time increases the risk of developing lung diseases.

12. Ecological information

Ecotoxicity Toxic to aquatic life.

Components	Species		Test Results
Niclosamide ethanolamine salt (CAS 1420-04-8)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	0.14 - 0.27 mg/l, 48 hours
	LC50	Daphnia	0.38 mg/l, (70% niclosamide ethanolamine salt mixture)
Fish	LC50	Channel catfish (Ictalurus punctatus)	0.035 - 0.051 mg/l, 96 hours
		Rainbow Trout	0.34 mg/l, 96 Hours, (70% niclosamide ethanolamine salt mixture)
Polyoxyethylene-polyoxypropylene block copolymer (CAS 9003-11-6)			
Aquatic			
Crustacea	EC50	Invertebrates (Invertebrates)	> 100 mg/l, 48 hours
Fish	LC50	Fish	> 100 mg/l, 96 hours

Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	Has moderate potential to bioaccumulate. BCF: 46
Mobility in soil	Niclosamide ethanolamine salt: Estimated Koc = 350. Moderate soil mobility.
Other adverse effects	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

13. Disposal considerations

Disposal instructions	This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazardous waste code	Not regulated.
Waste from residues / unused products	Dispose in accordance with all applicable regulations.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as a hazardous material by DOT.

IATA

Not regulated as a dangerous good.

IMDG

Not regulated as a dangerous good.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code This substance/mixture is not intended to be transported in bulk.

15. Regulatory information

US federal regulations This product is not hazardous according to OSHA 29CFR 1910.1200. This material is not listed on the US TSCA 8(b) Inventory, and is exempt because it is FIFRA regulated.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No
 Delayed Hazard - No
 Fire Hazard - No
 Pressure Hazard - No
 Reactivity Hazard - No

SARA 302 Extremely hazardous substance No

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)
 Not regulated.

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Food and Drug Administration (FDA) Not regulated.

US state regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US. Massachusetts RTK - Substance List

Niclosamide ethanolamine salt (CAS 1420-04-8)
 Silicon dioxide (CAS 7631-86-9)

US. New Jersey Worker and Community Right-to-Know Act

Not regulated.

US. Pennsylvania RTK - Hazardous Substances

Niclosamide ethanolamine salt (CAS 1420-04-8)
 Silicon dioxide (CAS 7631-86-9)

US. Rhode Island RTK

Not regulated.

US. California Proposition 65**US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance**

Not listed.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

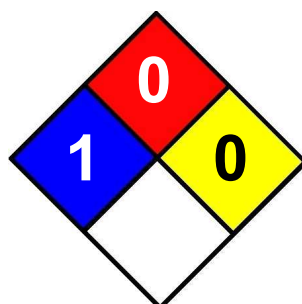
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 04-November-2013

Revision date -

Version # 01

NFPA Ratings

References

EPA: AQUIRE database
NLM: Hazardous Substances Data Base
US. IARC Monographs on Occupational Exposures to Chemical Agents
HSDB® - Hazardous Substances Data Bank
IARC Monographs. Overall Evaluation of Carcinogenicity
National Toxicology Program (NTP) Report on Carcinogens
ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices

Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available.

[LEFT PANEL]

RESTRICTED USE PESTICIDE

DUE TO ACUTE HAZARDS TO THE EYE AND SKIN AND TO NON-TARGET ORGANISMS, NEED FOR HIGHLY SPECIALIZED APPLICATOR TRAINING, AND NEED FOR SPECIALIZED EQUIPMENT.

ONLY FOR SALE TO AND APPLICATION BY CERTIFIED APPLICATORS OF THE U.S. FISH AND WILDLIFE SERVICE, FISHERIES AND OCEANS CANADA AND PROVINCIAL AND STATE FISH AND GAME EMPLOYEES

**TFM HP
Sea Lamprey Larvicide**

Active Ingredient:

TFM, 3-Trifluoromethyl-4-nitrophenol, sodium salt 36.5%
Inert Ingredients: 63.5%
TOTAL: 100.0%

*Equivalent to (33.0%) 3-Trifluoromethyl-4-nitrophenol

This product contains ___ lbs. of TFM per gallon

Batch No. _____ Net Contents _____ lbs.

KEEP OUT OF REACH OF CHILDREN

DANGER-POISON



FIRST AID

Have label with you when obtaining treatment advice.

If swallowed	<ul style="list-style-type: none">• Call a poison control center or doctor immediately for treatment advice• Have person sip a glass of water, if able to swallow• Do not induce vomiting unless told to do so by poison control center or doctor
If on skin or clothing	<ul style="list-style-type: none">• Take off contaminated clothing.• Rinse skin immediately, with plenty of water, for 15-20 minutes.• Call a poison control center or doctor immediately for treatment advice.

[LEFT PANEL]

If inhaled	<ul style="list-style-type: none">• Move person to fresh air.• If person is not breathing, call an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.• Call a poison control center or doctor immediately for treatment advice.
If in eyes	<ul style="list-style-type: none">• Hold eye open and rinse slowly and gently with water for 15-20 minutes.• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.• Call a poison control center or doctor immediately for treatment advice.
Hot Line Number: You may also contact 1-800-858-7378 for health concerns, emergency medical treatment information or pesticide incidents	

SEE LEFT PANEL FOR ADDITIONAL PRECAUTIONARY STATEMENTS

Manufactured For:

Fish and Wildlife Service
United States Department of Interior
18th and C Streets, NW
Washington, DC 20240

EPA Reg. No. 6704-45

EPA Est. _____

[LEFT PANEL]
PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER

Acute Hazards: Corrosive. Causes irreversible eye damage and skin burns. May be fatal if swallowed. Harmful if absorbed through skin or inhaled.

Hazard Avoidance: Do not get in eyes, on skin, or on clothing. Avoid breathing vapor. Wear protective clothing as listed under "Personal Protective Equipment." Wash thoroughly with soap and water after handling and before eating or smoking. Remove contaminated clothing and wash before reuse. Prolonged or frequent repeated skin contact may cause allergic reactions in some individuals.

PERSONAL PROTECTIVE EQUIPMENT:

Handlers must wear:

- Coveralls or rubber apron over long-sleeved shirt and long pants
- Chemical-resistant gloves (such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, or polyvinyl chloride [PVC], Viton)
- Chemical-resistant footwear plus socks
- Protective eyewear (goggles or face shield)

Applicators who apply diluted product must wear:

- Chemical-resistant gloves (such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, or polyvinyl chloride [PVC], Viton)

USER SAFETY REQUIREMENTS:

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions are provided for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS:

Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

Users should remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Users should remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

This chemical is toxic to fish and aquatic invertebrates. Non-target organisms may be killed at rates recommended on this label. Directions for use must be strictly followed to minimize hazards to non-target organisms. **Do not** contaminate water by the cleaning of equipment or disposal of wastes.

PHYSICAL AND CHEMICAL HAZARDS

Combustible. Do not use and store near open flame.

Not to be used by unauthorized personnel.

[RIGHT PANEL]

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

CATEGORY OF APPLICATOR: Aquatic Pest Control.

USE RESTRICTIONS:

For control of Sea Lamprey Larvae (*Petromyzon marinus*) in the Great Lakes Basin, the Lake Champlain system and the Finger Lakes.

Aerial applications of this product are prohibited.

Local, State, and Provincial Fish and Game Agencies must be contacted before product is applied. Municipalities that use streams requiring treatment as potable water sources must be notified of the impending treatment at least 24 hours prior to application. Known agricultural irrigators that use streams requiring treatment as a source of irrigation water must be notified of the impending treatment at least 24 hours prior to application. Agricultural irrigators must turn off their irrigation system for a 24-hour period during and after treatment.

PRETREATMENT DIRECTIONS:

Pretreatment surveys are always made to determine the presence of sea lamprey larvae. All waters in the Great Lakes Basin, the Lake Champlain system, and the Finger Lakes selected for treatment must first be analyzed on site to determine both the minimum concentration of TFM HP required to kill sea lamprey larvae and the maximum concentration that can be applied without causing undue mortality of non-target organisms. "Analysis" constitutes live animal toxicity tests, or the use of a multiple regression relating toxicity test results to on-site determination of total alkalinity and pH of the body of water.

APPLICATION DIRECTIONS:

When applying this product, do not apply in a way that will cause the concentrated product to contact unprotected workers or other persons, either directly or through drift.

Persons applying TFM HP must follow the Standard Operating Procedures for Application of Lampricides in the Great Lakes Fishery Commission's Integrated Management of Sea Lamprey Control Program, and ensure that the correct application rates are used. Prior to and during the application of this chemical, take appropriate actions to notify public water users including notification actions specified in this manual.

The concentration of TFM HP needed to kill sea lamprey larvae may vary depending upon water chemistry. Measure volume or flow-rate and add the amount of TFM HP necessary at rates based on the foregoing analysis. Dispense TFM HP by application devices sufficiently accurate to maintain predetermined concentration. Concentration in the body of water must be monitored either by spectrophotometric analysis or high-performance liquid chromatography. TFM HP may be used by itself in the treatment of waters in the Great Lakes Basin, the Lake Champlain system, and the Finger Lakes. At times, however, formulations of Bayluscide (EPA REG. NO. 6704-88) may be used in combination with TFM HP (EPA REG. NO. 6704-45) for control of sea lamprey larvae. Application of Bayluscide may be as a simultaneous addition with TFM HP to reduce the amount of TFM HP required or as a subsequent addition downstream to enhance TFM HP larvicidal activity. Prior to using Bayluscide- TFM HP,

[RIGHT PANEL]

pretreatment surveys must be made to determine the presence of larvae. When using Bayluscide in combination with TFM HP, mix in proportions that result in a final concentration of Bayluscide of not more than 2% of TFM HP by weight (based on active ingredient). Bayluscide may be added to TFM HP in two ways:

1. One method of application is to apply both lampricides at the primary application site. TFM HP is metered into the stream while Bayluscide is applied with a separate pump system in amounts calculated to deliver the desired ratio of Bayluscide to TFM HP. Bayluscide is applied separately to provide a uniform application and to enhance control of concentration.

2. A second application method is to apply Bayluscide into an existing TFM HP block. Because a TFM HP block can be diluted by ground water, swamp seepage, untreated tributaries, occasional rain, or other conditions that cannot be included when the application rates are calculated, the toxicity of the block in the stream must be raised by the addition of TFM HP or Bayluscide. The latter may be used in place of TFM HP. In these situations, TFM HP alone is pumped into the stream at the primary application site. Bayluscide is introduced into the TFM HP block at a point or points downstream in amounts calculated to produce the desired Bayluscide to TFM ratio.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage and disposal.

STORAGE: Store only in original container, in a dry place inaccessible to children, pets and domestic animals.

SPILLS: Handle and open container in a manner that will prevent spillage. If the container is leaking or material is spilled for any reason or cause, contain spill with a barrier of absorbent material. Refer to Precautionary Statements on label for hazards associated with the handling of this material. Do not walk through spilled material. Dispose of pesticide as directed below. In spill or leak incidents, keep unauthorized people away. For decontamination procedures or any other assistance that may be necessary, contact Chemtrec at 1-800-424-9300.

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling if available or puncture and dispose in sanitary landfill, or by other procedures approved by state and local authorities. If rinsate cannot be used, follow pesticide disposal instructions. If not triple rinsed, these containers are acute hazardous wastes and must be disposed in accordance with local, state and federal regulations.

(Front Panel)

RESTRICTED USE PESTICIDE

Due to Acute Eye Irritation, Acute Oral Toxicity and Aquatic Organism Toxicity, Need for Specialized Equipment and Highly Specialized Applicator Training.

For retail sale to, and use only by, USDI, FWS, State Fish and Game, Fisheries and Oceans Canada, and Provincial Certified Applicators trained in sea lamprey control or persons under their direct supervision.

TFM BAR

Active Ingredient:

TFM, 3-Trifluoromethyl-4-nitrophenol 23.0%

Inert Ingredients: 77.0%

TOTAL: 100.0%

KEEP OUT OF REACH OF CHILDREN

DANGER

FIRST AID

Have label with you when obtaining treatment advice.

If swallowed	<ul style="list-style-type: none">• Call a poison control center or doctor immediately for treatment advice• Have person sip a glass of water, if able to swallow• Do not induce vomiting unless told to do so by poison control center or doctor
If on skin or clothing	<ul style="list-style-type: none">• Take off contaminated clothing.• Rinse skin immediately, with plenty of water, for 15-20 minutes.• Call a poison control center or doctor immediately for treatment advice.

If inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. • Call a poison control center or doctor immediately for treatment advice.
If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor immediately for treatment advice.
<p>Hot Line Number: You may also contact 1-800-858-7378 for health concerns, emergency medical treatment information of pesticide incidents</p>	

See Left Panel for additional precautionary statements.

Manufactured For:

Fish and Wildlife Service
United States Department of Interior
18th and C Streets, NW
Washington, DC 20240

EPA Reg. No. 6704-86

EPA Est No. _____

Batch No. _____

Net Contents _____ lbs.

(Left Panel)

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER

Acute Hazards: Corrosive. Causes irreversible eye damage. May be fatal if swallowed. Harmful if absorbed through skin or inhaled.

Hazard Avoidance: Do not get in eyes, on skin, or on clothing. Avoid breathing vapors. Wear protective clothing as listed under “Personal Protective Equipment.” Wash thoroughly with soap and water after handling and before eating or smoking. Remove contaminated clothing and wash before reuse.

PERSONAL PROTECTIVE EQUIPMENT:

Handlers must wear:

- Protective eyewear (goggles, face shield, or safety glasses)
- Long-sleeved shirt and long pants
- Chemical-resistant gloves (such as Natural Rubber, selection Category A)
- Socks and shoes

User Safety Requirements:

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions are provided for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

User Safety Recommendations:

Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

Users should remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Users should remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

This chemical is toxic to fish and aquatic invertebrates. Nontarget organisms (such as freshwater clams and mussels) may be killed at recommended rates. Directions for use must be strictly followed to minimize hazards to non-target organisms. **Do not** contaminate water by the cleaning of equipment or disposing of equipment washwaters.

(Right Panel)

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

READ THIS LABEL:

Read the entire label and Sea Lamprey Control Document No. SLC-92-001[Standard Operating Procedures for Application of Lampricides in the Great Lakes Fishery Commission Integrated Management of Sea Lamprey (*Petromyzon marinus*) Control Program] for correct rates of application. This product must be used strictly in accordance with both the label's precautionary statements and applicable use directions, as well as with all applicable State and Federal laws and regulations.

GENERAL INFORMATION:

This product contains a fast-acting fish toxicant which kills sea lamprey larvae in 1-2 hours. The mode of action is uncoupling of oxidative phosphorylation. As many types of nontarget species are potentially vulnerable to TFM, it is necessary to use care and to follow the requirements of this label to minimize impacts.

USE RESTRICTIONS:

Use Pattern:

TFM Bars may be used for control of sea lamprey (*Petromyzon marinus*) in waters in the Great Lakes Basin, the Lake Champlain system and the Finger Lakes. Only apply this product according to this label.

Permits:

Obtain any permits needed from local, State, Provincial and Federal wildlife authorities.

Potable Water:

At least 24 hours prior to application, notify municipalities and agricultural irrigators that potable and irrigation water will be treated. Agricultural irrigators must turn off their irrigation systems for a 24-hour period during and after treatment. Prior to and during the application of this chemical, take all appropriate actions to notify public water users and municipalities including notification actions specified in the application manual referred to above.

Unauthorized Personnel:

May not be used by unauthorized personnel.

PRE-APPLICATION DIRECTIONS:**Pretreatment Surveys:**

Pretreatment surveys are always made to determine abundance of sea lamprey larvae (*Petromyzon marinus*). All waters in the Great Lakes basin, Lake Champlain system and Finger Lakes that are selected for treatment must first be analyzed on site to determine both the minimum concentration of TFM required to kill sea lamprey larvae and the maximum concentration that can be applied without causing undue mortality of non-target organisms. "Analysis" constitutes live animal bioassays, or the use of multiple regression curves relating toxicity test results to on-site determination of pH or total alkalinity and conductivity of the body of water.

Lethal Concentration:

The concentration of TFM needed to kill a sea lamprey larvae may vary depending upon water chemistry and temperature. Measure volume or flow rate and add the amount of chemical necessary at rates based on the foregoing analysis. Concentration in the body of water must be monitored by spectrophotometric analysis or high performance liquid chromatography.

APPLICATION DIRECTIONS

Bar Placement: Suspend each bar at least one inch above the bottom of the stream to permit movement of water on all sides.

TFM Delivery Rate: When submerged in water, TFM bars dissolve in approximately 8 to 10 hours at 17 °C and 10 to 12 hours at 12 °C in current velocities 0.09 to 0.12 meter/sec. More rapid velocities will cause the bars to dissolve faster. First, calculate the amount of TFM (grams/hr) needed to supply a lethal concentration to larval sea lampreys in the stream. Then calculate the amount of TFM (grams/hr) released from a TFM bar based on the length of time the bars are expected to last at the prevailing temperature. Divide the amount of TFM needed by the amount released per bar to find the number of bars needed.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

STORAGE: Store only in original container, in a cool (85°F or less) dry place inaccessible to children, pets and domestic animals, and where spills and leakage can be contained. If product becomes soft or liquifies due to high temperatures, cooling to below 85°F will return it to a solid state.

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spilled bait, or rinsate is a violation of Federal law. If these wastes cannot be disposed of according to instructions in the application manual, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Offer empty plastic wrappers and packing cartons for recycling if available or dispose of in a sanitary landfill or by incineration, or by other procedures allowed by state and local authorities.

[LEFT PANEL]

RESTRICTED USE PESTICIDE

DUE TO ACUTE HAZARDS TO THE EYE AND SKIN AND TO NON-TARGET ORGANISMS, NEED FOR HIGHLY SPECIALIZED APPLICATOR TRAINING, AND NEED FOR SPECIALIZED EQUIPMENT.

ONLY FOR SALE TO AND APPLICATION BY CERTIFIED APPLICATORS OF THE U.S. FISH AND WILDLIFE SERVICE, FISHERIES AND OCEANS CANADA AND PROVINCIAL AND STATE FISH AND GAME EMPLOYEES

**LAMPRECID®
Sea Lamprey Larvicide**

Active Ingredient:

TFM, 3-Trifluoromethyl-4-nitrophenol, sodium salt 36.5%
Inert Ingredients: 63.5%
TOTAL: 100.0%

*Equivalent to (33.0%) 3-Trifluoromethyl-4-nitrophenol

This product contains ___ lbs. of TFM per gallon

Batch No. _____ Net Contents _____ lbs.

KEEP OUT OF REACH OF CHILDREN

DANGER-POISON



FIRST AID

Have label with you when obtaining treatment advice.

If swallowed	<ul style="list-style-type: none">• Call a poison control center or doctor immediately for treatment advice• Have person sip a glass of water, if able to swallow• Do not induce vomiting unless told to do so by poison control center or doctor
If on skin or clothing	<ul style="list-style-type: none">• Take off contaminated clothing.• Rinse skin immediately, with plenty of water, for 15-20 minutes.• Call a poison control center or doctor immediately for treatment advice.

[LEFT PANEL]

If inhaled	<ul style="list-style-type: none">• Move person to fresh air.• If person is not breathing, call an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.• Call a poison control center or doctor immediately for treatment advice.
If in eyes	<ul style="list-style-type: none">• Hold eye open and rinse slowly and gently with water for 15-20 minutes.• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.• Call a poison control center or doctor immediately for treatment advice.
Hot Line Number: You may also contact 1-800-858-7378 for health concerns, emergency medical treatment information or pesticide incidents	

SEE LEFT PANEL FOR ADDITIONAL PRECAUTIONARY STATEMENTS

Manufactured For:

Fish and Wildlife Service
United States Department of Interior
18th and C Streets, NW
Washington, DC 20240

EPA Reg. No. 6704-45

EPA Est. _____

[LEFT PANEL]
PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER

Acute Hazards: Corrosive. Causes irreversible eye damage and skin burns. May be fatal if swallowed. Harmful if absorbed through skin or inhaled.

Hazard Avoidance: Do not get in eyes, on skin, or on clothing. Avoid breathing vapor. Wear protective clothing as listed under "Personal Protective Equipment." Wash thoroughly with soap and water after handling and before eating or smoking. Remove contaminated clothing and wash before reuse. Prolonged or frequent repeated skin contact may cause allergic reactions in some individuals.

PERSONAL PROTECTIVE EQUIPMENT:

Handlers must wear:

- Coveralls or rubber apron over long-sleeved shirt and long pants
- Chemical-resistant gloves (such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, or polyvinyl chloride [PVC], Viton)
- Chemical-resistant footwear plus socks
- Protective eyewear (goggles or face shield)

Applicators who apply diluted product must wear:

- Chemical-resistant gloves (such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, or polyvinyl chloride [PVC], Viton)

USER SAFETY REQUIREMENTS:

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions are provided for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS:

Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

Users should remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Users should remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

This chemical is toxic to fish and aquatic invertebrates. Non-target organisms may be killed at rates recommended on this label. Directions for use must be strictly followed to minimize hazards to non-target organisms. **Do not** contaminate water by the cleaning of equipment or disposal of wastes.

PHYSICAL AND CHEMICAL HAZARDS

Combustible. Do not use and store near open flame.

Not to be used by unauthorized personnel.

[RIGHT PANEL]

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

CATEGORY OF APPLICATOR: Aquatic Pest Control.

USE RESTRICTIONS:

For control of Sea Lamprey Larvae (*Petromyzon marinus*) in the Great Lakes Basin, the Lake Champlain system and the Finger Lakes.

Aerial applications of this product are prohibited.

Local, State, and Provincial Fish and Game Agencies must be contacted before product is applied. Municipalities that use streams requiring treatment as potable water sources must be notified of the impending treatment at least 24 hours prior to application. Known agricultural irrigators that use streams requiring treatment as a source of irrigation water must be notified of the impending treatment at least 24 hours prior to application. Agricultural irrigators must turn off their irrigation system for a 24-hour period during and after treatment.

PRETREATMENT DIRECTIONS:

Pretreatment surveys are always made to determine the presence of sea lamprey larvae. All waters in the Great Lakes Basin, the Lake Champlain system, and the Finger Lakes selected for treatment must first be analyzed on site to determine both the minimum concentration of LAMPRECID® required to kill sea lamprey larvae and the maximum concentration that can be applied without causing undue mortality of non-target organisms. "Analysis" constitutes live animal toxicity tests, or the use of a multiple regression relating toxicity test results to on-site determination of total alkalinity and pH of the body of water.

APPLICATION DIRECTIONS:

When applying this product, do not apply in a way that will cause the concentrated product to contact unprotected workers or other persons, either directly or through drift.

Persons applying LAMPRECID® must follow the Standard Operating Procedures for Application of Lampricides in the Great Lakes Fishery Commission's Integrated Management of Sea Lamprey Control Program, and ensure that the correct application rates are used. Prior to and during the application of this chemical, take appropriate actions to notify public water users including notification actions specified in this manual.

The concentration of LAMPRECID® needed to kill sea lamprey larvae may vary depending upon water chemistry. Measure volume or flow-rate and add the amount of LAMPRECID® necessary at rates based on the foregoing analysis. Dispense LAMPRECID® by application devices sufficiently accurate to maintain predetermined concentration. Concentration in the body of water must be monitored either by spectrophotometric analysis or high-performance liquid chromatography. LAMPRECID® may be used by itself in the treatment of waters in the Great Lakes Basin, the Lake Champlain system, and the Finger Lakes. At times, however, formulations of Bayluscide (EPA REG. NO. 6704-88) may be used in combination with LAMPRECID® (EPA REG. NO. 6704-45) for control of sea lamprey larvae. Application of Bayluscide may be as a simultaneous addition with LAMPRECID® to reduce the amount of LAMPRECID® required or as a subsequent addition downstream to enhance LAMPRECID® larvicidal activity. Prior to using Bayluscide- LAMPRECID®, pretreatment surveys must be made to determine the presence of larvae. When using Bayluscide in combination with LAMPRECID®, mix in proportions that result in a final

[Front Panel]

RESTRICTED USE PESTICIDE

Due to Aquatic Organism Toxicity, Need for Specialized Equipment and Highly Specialized Applicator Training.

For retail sale to, and use only by, USDI FWS, State Fish and Game, Fisheries and Oceans Canada, and Provincial Certified Applicators trained in sea lamprey control.

BAYLUSCIDE 3.2% Granular Sea Lamprey Larvicide

Active Ingredient: Niclosamide, Aminoethanol Salt¹ 3.2%
Inert Ingredients: 96.8%
TOTAL: 100.0%

[¹Niclosamide, Active Equivalent (a.e.) = 2.7%]

KEEP OUT OF REACH OF CHILDREN

CAUTION

FIRST AID

Have label with you when obtaining treatment advice.

If swallowed	<ul style="list-style-type: none">•Call a poison control center or doctor immediately for treatment advice.•Have person sip a glass of water if able to swallow.•Do not induce vomiting unless told to do so by the poison control center or doctor.
If on skin or clothing	<ul style="list-style-type: none">•Take off contaminated clothing.•Rinse skin immediately with plenty of water for 15-20 minutes.•Call a poison control center or doctor immediately for treatment advice.
If in eyes	<ul style="list-style-type: none">•Hold eye open and rinse slowly and gently with water for 15-20 minutes.•Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.•Call a poison control center or doctor or 1-800-858-7378 immediately for treatment advice.

[Front Panel]

See Left Panel for additional precautionary statements.

Manufactured For:

Fish and Wildlife Service
United States Department of Interior
18th and C Streets, NW
Washington, DC 20240

EPA Reg. No. 6704-91

EPA Establishment _____

Batch No. _____

Net Contents _____ lbs.

[Left Panel]

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Acute Hazards: Harmful if swallowed. Harmful if absorbed through skin. Causes moderate eye irritation.

Hazard Avoidance: Do not get in eyes, on skin, or on clothing. Wear protective clothing as listed under “Personal Protective Equipment.” Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Remove contaminated clothing and wash before reuse.

PERSONAL PROTECTIVE EQUIPMENT:

Handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves (such as rubber or made out of any water-proof material, Selection Category A)
- Socks and shoes

User Safety Requirements:

Follow manufacturer’s instructions for cleaning/maintaining PPE. If no such instructions are provided for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

User Safety Recommendations:

Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

Users should remove clothing immediately if pesticide gets inside, then wash thoroughly and put on clean clothing.

Users should remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.

[Left Panel]

ENVIRONMENTAL HAZARDS

This chemical is toxic to fish and aquatic invertebrates. Nontarget aquatic organisms may be killed at rates recommended on this label. Directions for use must be strictly followed to minimize hazards to nontarget organisms. **Do not** contaminate water by the cleaning of equipment or disposing of equipment washwaters.

[Right Panel]

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

READ THIS LABEL

Read the entire label and Technical Operating Procedures of the Sea Lamprey Control Document No. SLC-92-001 [Manual for Application of Lampricides in the U.S. Fish and Wildlife Service Sea Lamprey (*Petromyzon marinus*) Control Program] for correct rates of application. This product must be used strictly in accordance with the label's precautionary statements and applicable use directions, as well as with all applicable State and Federal laws and regulations.

GENERAL INFORMATION

This product contains a fast-acting fish toxicant which kills sea lamprey larvae in 1-2 hours. The mode of action is uncoupling of oxidative phosphorylation. As many types of nontarget aquatic species are potentially vulnerable to Bayluscide, it is necessary to use care and to follow the requirements of this label to minimize impacts.

USE RESTRICTIONS

Use Pattern:

Bayluscide 3.2% Granular Sea Lamprey Larvicide is used in waters of the Great Lakes basin, the Lake Champlain system, and the Finger Lakes. This formulation may be used alone or in conjunction with applications of TFM, or the combination of TFM and Bayluscide 70% Wettable Powder Sea Lamprey Larvicide. Bayluscide 3.2% Granular Sea Lamprey Larvicide may also be used as an assessment tool in deep or turbid water. When applied to a water's surface, the granules fall rapidly to the bottom where they are lethal to sea lamprey larvae.

Pre-application Notification:

Prior to and during the application of this chemical, take all appropriate actions to notify public water users, including notification actions specified in the application manual referred to above.

Permits:

Obtain any permits needed from Local, State, Provincial, and Federal wildlife agencies.

[Right Panel]

Potable Water:

Local, State, and Provincial Fish and Game agencies must be contacted before product is applied. Municipalities that use streams requiring treatment as potable water sources must be notified of the impending treatment at least 24 hours prior to application. Agricultural irrigators that use streams requiring treatment as a source of irrigation water must turn off their irrigation systems for a 24-hour period during and after treatment.

Unauthorized Personnel:

May not be used by unauthorized personnel.

PRE-APPLICATION DIRECTIONS

Aerial Application:

Aerial application of this product is prohibited.

Pretreatment Surveys:

Prior to using Bayluscide 3.2% Granular Sea Lamprey Larvicide, pretreatment surveys must be made to determine populations of larvae.

APPLICATION DIRECTIONS

Persons applying Bayluscide 3.2% Granular Sea Lamprey Larvicide must follow Sea Lamprey Control Document No. SLC-92-001, "Standard Operating Procedure for Application of Lampricides in the Great Lakes Fishery Commission's Integrated Management of Sea Lamprey (*Petromyzon marinus*) Control Program," and ensure that the correct application rates are used. Prior to and during the application of this chemical, take appropriate actions to notify public water users, including notification actions specified in this manual. Determine water temperatures and pH. For best results, apply granules at water temperatures greater than 10 °C and pH greater than 7. Measure the area to be treated (length x width, in feet). Place markers to delineate the plot perimeter. Compute the total surface area to be treated in square feet. Application rate for Bayluscide 3.2% Granular Sea Lamprey Larvicide is 5 lb. AI/Acre. Compute the weight of granules to apply: ***lbs. of formulation required = square feet to be treated x .00359 lbs. formulation/sq. foot.*** Use equipment that can be accurately calibrated to distribute the required amount of Bayluscide 3.2% Granular Sea Lamprey Larvicide evenly over the area to be treated.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage and disposal.

STORAGE: Store only in original container, in a dry place inaccessible to children, pets, and domestic animals and where spills and leakage can be contained.

SPILLS: Handle and open container in a manner that will prevent spillage. If the container is leaking or material is spilled for any reason or cause, contain spill with a barrier of absorbent material. Refer to Precautionary Statements on label for hazards associated with the handling of this material. Do not walk through spilled material. Dispose of pesticide as directed below. In spill or leak incidents, keep unauthorized people away. For decontamination procedures or any other assistance that may be necessary, contact Chemtrec at 1-800-424-9300.

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container $\frac{1}{4}$ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling if available or puncture and dispose in sanitary landfill, or by other procedures approved by state and local authorities. If rinsate cannot be used, follow pesticide disposal instructions. If not triple rinsed, these containers are acute hazardous wastes and must be disposed in accordance with local, state and federal regulations.

[RIGHT PANEL]

concentration of Bayluscide of not more than 2% of LAMPRECID® by weight (based on active ingredient). Bayluscide may be added to LAMPRECID® in two ways:

1. One method of application is to apply both lampricides at the primary application site. LAMPRECID® is metered into the stream while Bayluscide is applied with a separate pump system in amounts calculated to deliver the desired ratio of Bayluscide to LAMPRECID®. Bayluscide is applied separately to provide a uniform application and to enhance control of concentration.

2. A second application method is to apply Bayluscide into an existing LAMPRECID® block. Because a LAMPRECID® block can be diluted by ground water, swamp seepage, untreated tributaries, occasional rain, or other conditions that cannot be included when the application rates are calculated, the toxicity of the block in the stream must be raised by the addition of LAMPRECID® or Bayluscide. The latter may be used in place of LAMPRECID®. In these situations, LAMPRECID® alone is pumped into the stream at the primary application site. Bayluscide is introduced into the LAMPRECID® block at a point or points downstream in amounts calculated to produce the desired Bayluscide to TFM ratio.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage and disposal.

STORAGE: Store only in original container, in a dry place inaccessible to children, pets and domestic animals.

SPILLS: Handle and open container in a manner that will prevent spillage. If the container is leaking or material is spilled for any reason or cause, contain spill with a barrier of absorbent material. Refer to Precautionary Statements on label for hazards associated with the handling of this material. Do not walk through spilled material. Dispose of pesticide as directed below. In spill or leak incidents, keep unauthorized people away. For decontamination procedures or any other assistance that may be necessary, contact Chemtrec at 1-800-424-9300.

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling if available or puncture and dispose in sanitary landfill, or by other procedures approved by state and local authorities. If rinsate cannot be used, follow pesticide disposal instructions. If not triple rinsed, these containers are acute hazardous wastes and must be disposed in accordance with local, state and federal regulations.

FRONT PANEL

RESTRICTED USE PESTICIDE

Due to Eye Corrosiveness to Humans; Aquatic Organism Toxicity, Need for Specialized Equipment and Highly Specialized Applicator Training.

For retail sale to, and use only by, USDI FWS, State Fish and Game, Fisheries and Oceans Canada, and Provincial Certified Applicators trained in sea lamprey control.

BAYLUSCIDE 20% EMULSIFIABLE CONCENTRATE

Active Ingredient:

Niclosamide, Aminoethanol Salt¹20.3%

Inert Ingredients:.....79.7%

Total.....100.0%

¹Niclosamide, Active Equivalent (a.e.) = 17.1%

KEEP OUT OF REACH OF CHILDREN

DANGER

Corrosive to the Eye and Skin Sensitizer

FIRST AID

Have label with you when obtaining treatment advice.

If swallowed	<ul style="list-style-type: none">•Call a poison control center or doctor immediately for treatment advice.•Have person sip a glass of water if able to swallow.•Do not induce vomiting unless told to do so by the poison control center or doctor.
If on skin or clothing	<ul style="list-style-type: none">•Take off contaminated clothing.•Rinse skin immediately with plenty of water for 15-20 minutes.•Call a poison control center or doctor immediately for treatment advice.
If inhaled	<ul style="list-style-type: none">•Move person to fresh air.•If person is not breathing, call an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.•Call a poison control center or doctor immediately for treatment advice.

FRONT PANEL

If in eyes	<ul style="list-style-type: none">•Hold eye open and rinse slowly and gently with water for 15-20 minutes.•Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.•Call a poison control center or doctor immediately for treatment advice.
<p style="text-align: center;">NOTE TO PHYSICIAN</p> <p>Probable mucosal damage may contraindicate the use of gastric lavage. No specific antidote is available. Treat symptomatically. See additional PRECAUTIONARY STATEMENTS on Left/Right/Side Panel.</p>	
<p>Hot Line Number: You may also contact 1-800-856-7378 for health concerns or emergency medical treatment information of pesticide incidents.</p>	

EPA Reg. No. 6704-92

EPA Est. _____

Manufactured by:

Manufactured for:

Fish and Wildlife Service
United States Department of the Interior
18th and C Streets, NW
Washington, DC 20240

LEFT PANEL

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER

Acute Hazards: Corrosive. Causes irreversible eye damage. Harmful if absorbed through skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Hazard Avoidance: Do not get in eyes, on skin, or on clothing. Wear protective clothing and protective eyewear as listed under “Personal Protective Equipment.” Wash thoroughly with soap and water after handling and before eating or smoking. Remove contaminated clothing and wash before reuse.

PERSONAL PROTECTIVE EQUIPMENT:

Handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves [such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, or polyvinyl chloride (PVC), Viton]
- Socks and shoes
- Protective eyewear (goggles or face shield)

User Safety Requirements:

Follow manufacturer’s instructions for cleaning/maintaining Personal Protective Equipment (PPE). If no such instructions are provided for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

User Safety Recommendations:

Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

Users should remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Users should remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.

LEFT PANEL

ENVIRONMENTAL HAZARDS

This chemical is toxic to fish and aquatic invertebrates. Nontarget organisms (such as freshwater clams and mussels) may be killed at rates recommended on this label. Directions for use must be strictly followed to minimize hazards to non-target organisms. **Do not** contaminate water by the cleaning of equipment or disposing of equipment washwaters.

PERMITS

Obtain any permits needed from local, State, Provincial, and Federal wildlife authorities.

POTABLE WATER

At least 24 hours prior to application, notify municipalities and known agricultural irrigators that potable and irrigation water will be treated. Known agricultural irrigators must turn off their irrigation systems for a 24-hour period during and after treatment.

UNAUTHORIZED PERSONNEL

May not be used by unauthorized personnel.

RIGHT PANEL

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

READ THIS LABEL:

Read the entire label and Sea Lamprey Control Document No. SLC-92-001 [Manual for Application of Lampricides in the U.S. Fish and Wildlife Service Sea Lamprey (*Petromyzon marinus*) Control Program] for correct rates of application. This product must be used strictly in accordance with both label's precautionary statements and applicable use directions, as well as with all applicable State and Federal laws and regulations.

Before using this product, obtain all necessary permits.

GENERAL INFORMATION:

This product contains a fast-acting fish toxicant which kills sea lamprey larvae in 1-2 hours. The mode of action is uncoupling of oxidative phosphorylation. As many types of nontarget species are potentially vulnerable to Bayluscide, it is necessary to use care and to follow the requirements of this label to minimize impacts.

USE RESTRICTIONS:

Use Pattern:

Bayluscide 20% Emulsifiable Concentrate may be used as an additive in combination with TFM (EPA Reg. No. 6704-45) for control of sea lamprey (*Petromyzon marinus*) in waters in the Great Lakes Basin, the Lake Champlain system, and the Finger Lakes. Application of Bayluscide 20% Emulsifiable Concentrate may be made as a simultaneous addition with TFM to reduce the amount of TFM required or as a subsequent addition downstream to enhance TFM larvicidal activity.

Pre-Application Notification:

Prior to and during the application of this chemical, take all appropriate actions to notify public water users including notification actions specified in the application manual referred to above.

Aerial Application:

Aerial application of this product is prohibited.

Pretreatment Surveys:

Prior to using Bayluscide 20% Emulsifiable Concentrate-TFM, pretreatment surveys must be

RIGHT PANEL

made to determine populations of larvae. All waters selected for treatment must first be analyzed on site to determine both the minimum concentration of material required to kill lamprey larvae and the maximum concentration that can be applied without causing undue fish mortality. "Analysis" constitutes live animal toxicity tests or the use of a regression established by past toxicity tests and the total alkalinity and pH of the water.

Lethal Concentration:

Lethal concentration may vary depending upon water chemistry and temperature. Carefully calculate stream discharge and add the amount of lampricide necessary to kill lamprey larvae with minimal fish mortality. Use application devices that accurately deliver Bayluscide at calculated rates. Bayluscide concentrations will be monitored by gas chromatography or by high-performance liquid chromatography to insure that minimum lethal concentrations for sea lampreys are maintained and calculated maximum concentrations are not exceeded.

Application Directions:

Prior to and during the application of this chemical, take appropriate actions to notify public water users including notification actions specified in the Sea Lamprey Control Document No. SLC-92-001. When using Bayluscide 20% Emulsifiable Concentrate as an additive in combination with TFM, mix in proportions that result in a final concentration of Bayluscide 20% Emulsifiable Concentrate of not more than 2% of TFM by weight (based on active ingredient). Bayluscide 20% Emulsifiable Concentrate may be added to TFM in two ways:

1. One method of application is to apply both lampricides at the primary application site. TFM is metered into the stream while Bayluscide 20% Emulsifiable Concentrate is applied with a separate pump system in amounts calculated to deliver the desired ratio of Bayluscide to TFM.
2. A second application method is to apply Bayluscide 20% Emulsifiable Concentrate into an existing TFM bank. Because a TFM bank can be diluted by ground water, swamp seepage, untreated tributaries, occasional rain, or other conditions that cannot be included when the application rates are calculated, the toxicity of the bank in the stream must be raised by the addition of TFM or Bayluscide. The latter may be used in place of TFM. In these situations, TFM alone is pumped into the stream at the primary application site. Bayluscide 20% Emulsifiable Concentrate is introduced into the TFM bank at a point or points downstream in amounts calculated to produce the desired Bayluscide to TFM ratio.

RIGHT PANEL

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage and disposal.

STORAGE: Store only in original container, in a dry place inaccessible to children, pets, and domestic animals.

SPILLS: Handle and open container in a manner that will prevent spillage. If the container is leaking or material is spilled for any reason or cause, contain spill with a barrier of absorbent material. Refer to Precautionary Statements on label for hazards associated with the handling of this material. Do not walk through spilled material. Dispose of pesticide as directed below. In spill or leak incidents, keep unauthorized people away. For decontamination procedures or any other assistance that may be necessary, contact Chemtrec at 1-800-424-9300.

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling if available or puncture and dispose in sanitary landfill, or by other procedures approved by state and local authorities. If rinsate cannot be used, follow pesticide disposal instructions. If not triple rinsed, these containers are acute hazardous wastes and must be disposed in accordance with local, state and federal regulations.

FRONT PANEL

A Pesticide for Formulation only into a Lampricide for Use in Tributaries to the Great Lakes, Lake Champlain or the Finger Lakes or into a Molluscicide for Use Against Fresh Water Snails

BAYLUSCIDE TECHNICAL

Active Ingredient:
 Niclosamide, Aminoethanol Salt¹ 98.4%
 Inert Ingredients: 1.6%
 TOTAL: 100.0%
¹Niclosamide, Active Equivalent (a.e.) = 83.0%

KEEP OUT OF REACH OF CHILDREN
CAUTION

FIRST AID

Have label with you when obtaining treatment advice.

If on skin or clothing	<ul style="list-style-type: none"> •Take off contaminated clothing. •Rinse skin immediately with plenty of water for 15-20 minutes. •Call a poison control center, doctor or 1-800-858-7378 immediately for treatment advice.
If inhaled	<ul style="list-style-type: none"> •Move person to fresh air. •If person is not breathing, call an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. •Call a poison control center or doctor immediately for treatment advice.
If in eyes	<ul style="list-style-type: none"> •Hold eye open and rinse slowly and gently with water for 15-20 minutes. •Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. •Call a poison control center or doctor immediately for treatment advice.

See Left Panel for additional precautionary statements.

FRONT PANEL (continued)

Manufactured For:

Fish and Wildlife Service
United States Department of Interior
18th and C Streets, NW
Washington, DC 20240

EPA Reg. No. 6704-88

EPA Establishment No. _____

Batch No. _____

Net Contents _____ lbs.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Acute Hazards: Harmful if absorbed through skin or inhaled. Causes moderate eye irritation.

Hazard Avoidance: Do not get in eyes, on skin, or on clothing. Avoid breathing dust. Wear protective clothing as listed under "Personal Protective Equipment." Wash thoroughly with soap and water after handling and before eating or smoking. Remove contaminated clothing and wash before reuse.

PERSONAL PROTECTIVE EQUIPMENT:

Handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves (such as rubber or made out of any water-proof material)
- Socks and shoes

ENVIRONMENTAL HAZARDS

This chemical is toxic to fish and aquatic invertebrates. Do not discharge effluent containing this product into lakes, streams, pond estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your state Water Board or Regional Office of the EPA.

RIGHT PANEL

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

A Pesticide for Formulation only into a Lampricide for Use in Tributaries to the Great Lakes, Lake Champlain or the Finger Lakes or into a Molluscicide for Use Against Fresh Water Snails

Not to be used by unauthorized personnel.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage and disposal.

STORAGE: Store only in original container, in a dry place inaccessible to children, pets, and domestic animals and where spills and leakage can be contained. **Spills:** Handle and open container in a manner that will prevent spillage. If the container is leaking or material is spilled for any reason or cause, contain spill with a barrier of absorbent material. Refer to Precautionary Statements on label for hazards associated with the handling of this material. Do not walk through spilled material. Dispose of pesticide as directed below. In spill or leak incidents, keep unauthorized people away. For decontamination procedures or any other assistance that may be necessary, contact Chemtrec at 1-800-424-9300.

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, rinsate of the manufacturing equipment, containers, and spilled wastes, is a violation of Federal law. If these wastes cannot be discharged under an NPDES permit (See "Environmental Hazards"), properly secure wastes (e.g., in drum tanks) and contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container. Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into manufacturing equipment. Then offer for recycling if available or dispose of in a sanitary landfill or by incineration. If drum is contaminated and cannot be reused dispose of it in the manner required for its liner.