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
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	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 (CO2).

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/m3
		400 ppm
Sodium hydroxide (CAS 1310-73-2)	PEL	2 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value
Isopropyl alcohol (CAS 67-63-0)	STEL	400 ppm
	TWA	200 ppm
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

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/m3

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

Components	Type	Value
Isopropyl alcohol (CAS 67-63-0)	TWA	980 mg/m3
		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/m3
		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		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Oral		
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	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

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).

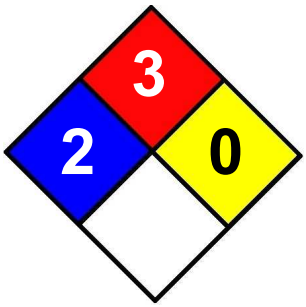
16. Other information, including date of preparation or last revision

Issue date 28-October-2013

Revision date -

Version # 01

NFPA Ratings



References

EPA: 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.