

Trout Unlimited Canada



Water Edu-Kit



Water Sample Collection

Please refer to the LaMotte Water Monitoring Kit manual for sampling instructions. **Please note:**

- Dissolved Oxygen-Small glass tube with twist lid-0125
- Biological Oxygen demand- Small glass tube with twist lid-0125 put in aluminum tube
- Nitrate test-Long plastic glass tube with plug lid-0106 goes in a second aluminum tube
- pH test- Long plastic glass tube with plug lid-0106
- Phosphate test- Long plastic glass tube with plug lid-010
- Temperature-2 numbered strips



To ensure that all tests are done using the same water sample, collect the sample using one of the three provided 16 oz. HDPE bottles. The bottle should first be labelled with the date, time, and sample location and then rinsed 2 - 3 times in the water body *prior* to filling it. Collect the water sample from a shore location where the sediments are not disturbed and ensure that the sample is collected away from the onshore vegetation, due to the effect of vegetation on the results. Collect the water samples by holding the bottle 5 - 10 cm (2 - 4 inches) below the water body surface, turning it away from you and into the current. Pour the required amount of water from the bottle into the test tubes from the LaMotte kit to sample for the various water quality parameters (following the instructions provided in the LaMotte kit).

****Prior to testing for nitrates, please read the Safety Data Sheet (SDS) for the nitrate reagent.**

Table 2: Water Quality Ranking (LaMotte Water Monitoring Kit Instruction Manual)

Water Quality Parameter	Excellent	Good	Fair	Poor
Dissolved Oxygen (DO)	91 - 110% Sat	71 - 90% Sat	51 - 70% Sat	< 50% Sat
Turbidity-JTU Jackson Turbidity Units	0 JTU	>0 - 40 JTU	>40 - 100 JTU	>100 JTU
Nitrate-N (n/a=No ranking)	n/a	n/a	5 ppm	20 or 40 ppm
Phosphate-P	1 ppm	2 ppm	4 ppm	n/a
pH	7	6 or 8	n/a	≤5 and ≥9
Temperature Range (between upstream and sampling locations)	0 – 2 °C	3 – 5 °C	6 – 10 °C	>10 °C
Biological Oxygen Demand (BOD)	0 ppm	4 ppm	8 ppm	n/a

- Use the Earth Force website to learn more about your results www.earthforce.org



Edu-Kits Water Quality Field Monitoring Survey: On-Site

Sample I.D. _____ **Date:** _____ **Time of Sampling:** _____
Coordinates of sampling location (latitude/longitude): _____ **Elevation (m):** _____
Coordinates of control (upstream site) (latitude/longitude): _____ **Elevation (m):** _____
Stream name/Nearest City or Town _____, _____

Weather

Daytime Air Temperature	Cold < 2 °C	Cool 2-10 °C ☐	Warm > 10 °C
Precipitation	Dry	Drizzle	Rain
Wind	Calm	Fresh Breeze	☐ Strong
Wind Direction (blowing from): ☐ N ☐ NE ☐ E ☐ SE ☐ S ☐ SW ☐ W ☐ NW			

Watershed Description:

Rooted or Bankfull Width (m) _____ **Wetted width (m):** _____
Water Depth (m) _____ **Riparian Buffer Width (average)(m):** _____
Land Use/Type (% agriculture, residential, park, etc.) _____
Riparian Health (Scale of 1-3): _____
Shade level (low <25%, high >75%) _____ **Strahler stream order (1-4)** _____
Dominant substrate (sand, pebble, gravel, cobble, boulder): _____
Dominant riparian vegetation (grass, shrubs, trees): _____
Catchment Notes and Adjacent Land Use:

Recent runoff ☐ Active ☐ Recent ☐ None

Field Analyses:

Temperature _____ °C **pH** _____ **Turbidity** _____ JTU
Dissolved Oxygen _____ ppm **Nitrate** _____ mg/L **Phosphate** _____ mg/L
Biological Oxygen Demand _____ mg/L

Comments and Water Quality concerns:



Macroinvertebrate Survey

Macroinvertebrate Sample Collection:

Choose a section of a stream or river site that is approximately 40 metres in length (where 1 stride equals approximately 1 metre) where the banks are level from one side to the other and the stream is relatively equal depth throughout the stretch. Use a visible marker, the flagging tape provided, to equally space the three sites. Each group will sample one site.

Begin sampling at your downstream limit. Place the dip nets close to the stream bottom so no macroinvertebrates pass underneath the nets and then hold still so that the current is flowing into the net. Stand upstream of the net and kick up the substrate to a depth of 5cm back and forth across the current, picking up smaller rocks and dislodging any macroinvertebrates and collect them. Working with your group, have three people hold onto the nets while the others kick up the stream bottom.

Remove any debris caught in the net being careful not to lose any macroinvertebrates clinging to the nets. Fill your buckets with water then transfer all of your captured macroinvertebrates into the bucket. Examine the macroinvertebrates and carefully separate them and place them into the ice-cube containers for closer examination with magnifiers for identification. Continue to sample, pulling and organizing until you have a good number (25-50) of samples recorded.

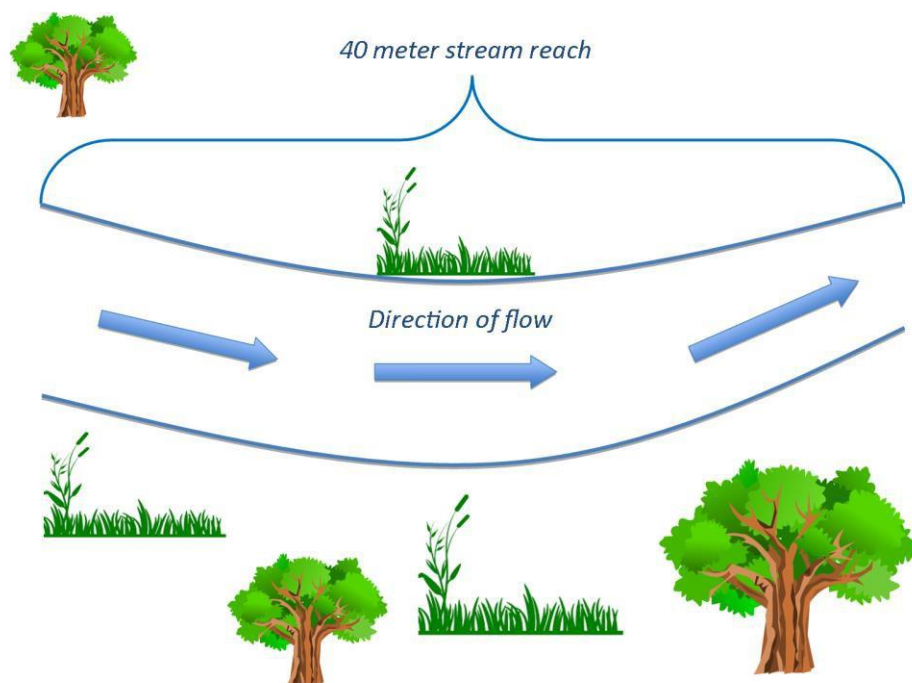


Figure 8: Example Site Sketch of Sampling Reach for Water Sampling



Macroinvertebrate Field Survey Data Sheet

Macroinvertebrate Indicator Species		
CLASS 1: LOW TOLERANCE Good quality water, little evidence of pollutants. Other species include dobsonfly larvae and water beetles.		
Caddisfly Nymph (in casing)	Mayfly Nymph	Stonefly Nymph
		
CLASS 2: MODERATE TOLERANCE Moderate quality water, Low concentration of pollutants. Other species include crayfish, damselflies, horse and deer flies, true bugs, clams, and water mites.		
Damselfly Nymph	Amphipod (Scud)	Dragonfly Nymph
		
CLASS 3: POLLUTION TOLERANT Poor quality water, high concentration of pollutants. Other species include aquatic earthworms, rat-tailed maggots, flatworms, mosquito larvae, roundworms, snails, and limpets.		
Chironomids	Leech	crayfish
		

All images courtesy of Phil Rowley-Fly Craft Angling Adventures

Site Sketch Template

Draw a bird's eye view of the sampling site including stream features, riparian vegetation, permanent features (bridges, roads, pathways etc.). Make sure to include a North Arrow.

LEGEND



1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product name Nitrate CTA TesTabs

Other means of identification

Product Code(s) 3703A

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory chemicals. Use as a laboratory reagent.

Details of the supplier of the safety data sheet

Manufacturer Address
LaMotte Company, Inc.
802 Washington Avenue
P.O. Box 329
Chestertown, MD 21620 USA
T 410-778-3100
F 410-778-9748

Emergency telephone number

24 Hour Emergency Number (CHEM-TEL):USA, Canada, Puerto Rico 1-800-255-3924 Outside North American Continent (Call collect) 813-248-0585

2. HAZARDS IDENTIFICATION

Skin sensitization

Category 1

EMERGENCY OVERVIEW

WARNING

Hazard statements

May cause an allergic skin reaction.



Appearance Gray

Physical state Tablet

Odor Odorless

Precautionary Statements - Prevention

Avoid breathing dust/fume/gas/mist/vapors/spray. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF ON SKIN: Wash with plenty of soap and water

If skin irritation or rash occurs: Get medical advice/attention

Wash contaminated clothing before reuse

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

IF SWALLOWED, Drink 1 or 2 glasses of water, Call a physician immediately

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant.

Other Hazards

Causes mild skin irritation Very toxic to aquatic life with long lasting effects

Unknown Acute Toxicity

19% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No	Weight-%
Zinc; Zinc Dust	7440-66-6	1
Sulfanilic acid	121-57-3	1

LaMotte Company proprietary formulation under the State of New Jersey Trade Secret Protection Law, assigned the NJTSRN 80100291-5074p, and may be disclosed only in a medical emergency

4. FIRST AID MEASURES**First Aid Measures**

General advice	Do not get in eyes, on skin, or on clothing.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.
Skin contact	Wash off with warm water and soap. If skin irritation persists, call a physician.
Inhalation	Remove to fresh air. If symptoms persist, call a physician.
Ingestion	Drink plenty of water. Never give anything by mouth to an unconscious person. Consult a physician if necessary.
<u>Self-protection of the first aider</u>	Use personal protection recommended in Section 8. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

5. FIRE-FIGHTING MEASURES**Suitable extinguishing media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Personal precautions	Use personal protection recommended in Section 8.
Environmental precautions	See Section 12 for additional Ecological Information.
<u>Methods and material for containment and cleaning up</u>	
Methods for containment	Prevent dust cloud. Contain and collect spillage with non-combustible absorbent material,

(e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

Methods for cleaning up

After cleaning, flush away traces with water.

7. HANDLING AND STORAGE

Precautions for safe handling**Handling**

Handle in accordance with good industrial hygiene and safety practice. Do not taste or swallow. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities**Storage**

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from direct sunlight.

Incompatible Products

Nitric acid. Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Zinc; Zinc Dust 7440-66-6	-	-	Not Established
Sulfanilic acid 121-57-3	-	-	Not Established

Appropriate engineering controls**Engineering Measures**

Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment**Eye/Face Protection**

Avoid contact with eyes. If splashes are likely to occur: Wear safety glasses with side shields (or goggles).

Skin and body protection

No special protective equipment required.

Respiratory protection

None required under normal usage.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with eyes, skin and clothing. Wear suitable gloves and eye/face protection. Wash hands and face before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties**Physical state
Appearance**

Tablet
Gray

Odor

Odorless

Property**Values****Remarks • Method**

pH
Melting point / freezing point
Boiling point / boiling range
Flash point
Evaporation rate
Flammability (solid, gas)
Flammability Limit in Air

3

No information available
No information available
No information available
No information available

No information available

Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor pressure	No information available
Vapor density	No information available
Specific gravity	No information available
Water solubility	Soluble in water
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available
Dynamic viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Stability	Stable.
Hazardous polymerization	Hazardous polymerization does not occur.
Conditions to avoid	Exposure to air or moisture over prolonged periods. Extremes of temperature and direct sunlight.
Incompatible materials	Nitric acid. Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides (COx). Nitrogen oxides (NOx). Sulfur oxides (SOx).

11. TOXICOLOGICAL INFORMATION

Product Information	Product does not present an acute toxicity hazard based on known or supplied information
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Information on likely routes of exposure**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Zinc; Zinc Dust 7440-66-6	Not Established	Not Established	Not Established
Sulfanilic acid 121-57-3	= 12300 mg/kg (Rat)	Not Established	Not Established

Information on toxicological effects**Sensitization** No information available

Chemical name	ACGIH	IARC	NTP	OSHA
Zinc; Zinc Dust 7440-66-6	-	Not Established	Not Established	-
Sulfanilic acid 121-57-3	-	Not Established	Not Established	-

Chronic toxicity	Product does not present a chronic toxicity hazard based on known or supplied information.
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ATEmix (oral)	20345
ATEmix (dermal)	9396 mg/kg
Dermal LD50	No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity**Unknown Aquatic Toxicity** 98 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical name	Toxicity to Algae	Toxicity to Fish	Daphnia Magna (Water Flea)
Zinc; Zinc Dust 7440-66-6	0.09 - 0.125: 72 h Pseudokirchneriella subcapitata mg/L EC50 static 0.11 - 0.271: 96 h Pseudokirchneriella subcapitata mg/L EC50 static	0.211 - 0.269: 96 h Pimephales promelas mg/L LC50 semi-static 2.16 - 3.05: 96 h Pimephales promelas mg/L LC50 flow-through 0.24: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 0.41: 96 h Oncorhynchus mykiss mg/L LC50 static 0.45: 96 h Cyprinus carpio mg/L LC50 semi-static 0.59: 96 h Oncorhynchus mykiss mg/L LC50 semi-static 2.66: 96 h Pimephales promelas mg/L LC50 static 3.5: 96 h Lepomis macrochirus mg/L LC50 static 30: 96 h Cyprinus carpio mg/L LC50 7.8: 96 h Cyprinus carpio mg/L LC50 static	0.139 - 0.908: 48 h Daphnia magna mg/L EC50 Static
Sulfanilic acid 121-57-3	91: 72 h Desmodesmus subspicatus mg/L EC50	77.8 - 129.6: 96 h Pimephales promelas mg/L LC50 static	85.66: 48 h Daphnia magna mg/L EC50

Persistence and degradability

No information available.

Bioaccumulation/Accumulation

No information available.

Chemical name	Log Pow
Zinc; Zinc Dust 7440-66-6	Not Established
Sulfanilic acid 121-57-3	-0.9

13. DISPOSAL CONSIDERATIONS**Disposal Methods**

Dispose according to federal, state, and local regulations. If permitted, dissolve in large volume of water, neutralize pH with dilute base, rinse to drain with excess water.

Contaminated packaging

Dispose of waste product or used containers according to local regulations.

Chemical name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Zinc; Zinc Dust 7440-66-6	Not Established	-	Not Established	Not Established
Sulfanilic acid 121-57-3	Not Established	-	Not Established	Not Established

Chemical name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Zinc; Zinc Dust 7440-66-6	Not Established	Not Established	Not Established	Not Established
Sulfanilic acid 121-57-3	Not Established	Not Established	Not Established	Not Established

Chemical name	California Hazardous Waste Status
Zinc; Zinc Dust 7440-66-6	-
Sulfanilic acid 121-57-3	-

14. TRANSPORT INFORMATION

DOT Not regulated

IATA Not regulated

IMDG/IMO Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDL	Complies
EINECS/ELINCS	Does not comply
ENCS	Does not comply
IECSC	Does not comply
KECL	Does not comply
PICCS	Does not comply
AICS	Does not comply

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances **IECSC**

- China Inventory of Existing Chemical Substances **KECL** -

Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	SARA 313 - Threshold Values %
Zinc; Zinc Dust 7440-66-6	1.0
Sulfanilic acid 121-57-3	Not Established

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Zinc; Zinc Dust 7440-66-6	Not Established	X	X	Not Established
Sulfanilic acid 121-57-3	Not Established	Not Established	Not Established	Not Established

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and

Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	RQ
Zinc; Zinc Dust 7440-66-6	1000 lb	Not Established	RQ 454 kg final RQ RQ 1000 lb final RQ
Sulfanilic acid 121-57-3	-	Not Established	-

US State Regulations

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Zinc; Zinc Dust 7440-66-6	X	X	X
Sulfanilic acid 121-57-3	Not Established	Not Established	Not Established

16. OTHER INFORMATION

NFPA

Health hazard 1

Flammability 0

Instability 0

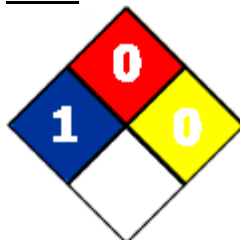
Physical and Chemical
Hazards N/A

HMIS

Health hazard 1

Flammability 0

Stability 0



Health Hazard	1
Fire Hazard	0
Reactivity	0

Prepared by

Issuing Date

Revision Date

Reason for revision

Disclaimer

Regulatory Affairs Department

May-26-2015

May-26-2015

New US GHS format

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Material Safety Data Sheet