A.T.S. ELECTRO-LUBE INTERNATIONAL INC.
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MATERIAL SAFETY DATA SHEET. [MSDS] 04 December 2004.

Electro-Lube Automatic Lubricant Dispenser.

This MSDS is for the ATS Electro-Lyte.
The ATS Electro-Lyte is absorbed in a solid sponge which is sealed inside the Electro-Lube unit.
In the event of puncture or tampering with the Electro-Lube unit up to about 2 ml of ATS Electro-Lyte may leak to the surroundings.

SECTION 1. ATS Electro-Lyte.

Trade name. ATS Electro-Lyte.
Chemical name. NA
Manufacturer. ATS Electro-Lube International Inc.
7388 Wilson Avenue
Delta BC
Canada V4G lH3 PHONE: 604-946-1308
FAX: 604-946-0427
e-mail:electro2@imag.net

SECTION 2. HAZARDOUS INGREDIENTS. ATS Electro-Lyte.

Component	CAS No.	wt%	Exposure limit TLV	LD50 Oral,species. mg/kg
Dimethyl sulphoxide	67-68-5	13	NE	14500 rat
Sodium azide	26628-22-8	15	0.29 mg/m^3	27 rat
Potassium iodide	7681-11-0	6	10 mg/m^3	4000 rat
Potassium thiocyanate	333-20-0	6	NE	854 rat
Ethylene glycol	107-21-1	3	100 ppm	4700 rat
non hazardous ingredients – water		57		

Total Electro-Lyte mass per Mini-luber unit = 15 gram

SECTION 3. PHYSICAL DATA. ATS Electro-Lyte.

Appearance. Clear, colourless liquid with faint sulphur smell.
Boiling Point. 104 deg. ^oC
Vapour Pressure. 15 mm Hg @ 20 ^oC
Vapour Density.[air=l] 1 [approx.]
Solubility in Water. Infinite
Specific Gravity. 1.14
% Volatile. 80 vol%
pH. 9
Evaporation Rate. as for water.

Section 4. FIRE AND EXPLOSION HAZARD. ATS Electro-Lyte.

Flammability.	Not flammable	**Flash point.**	NA
Auto-ignition Temperature.	NA	**Extinguishing Media.**	NA

Special Procedures. In event of fire [sustained by external source] wear full protective clothing and NIOSH approved self-contained breathing apparatus. Use dry chemical,foam or Class D.

Sensitivity to Impact.	None	**Sensitivity to Static.**	None
Rate of Burning.	None	**Explosive Power.**	NA

Temperature. Above 60 ^{o}C - slow decomposition to nitrogen.
Above 150 ^{o}C - rapid smooth decomposition of dry material to give toxic fumes [see below].

Contamination. Forms explosive compounds with heavy metals and their salts, [eg. brass, bronze, copper, lead, mercury, silver] or hypochlorites.

SECTION 5. REACTIVITY DATA. ATS Electro-Lyte.

Stability. Stable

Conditions to Avoid. Temperature above 100 ^{o}C
Contamination by heavy metals and their salts.
Contamination by acid.
Contact with hypochlorite, chlorinated solvents, carbon disulphide, acid(acyl)chlorides or strong oxidants.

Hazardous Decomposition Products. Oxidative decomposition above about 150 ^{o}C gives sulphur dioxide, nitrogen oxide, formaldehyde, methyl mercaptan, hydrogen cyanide, hydrogen iodide, (sodium),sodium oxide and potassium oxide.
Contact with acids gives hydrogen azide [TLV 0.1 ppm]

Hazardous Polymerization. None.

SECTION 6. HEALTH HAZARD DATA. ATS Electro-Lyte.

A. **Exposure Effects.**
ATS Electro-Lyte is absorbed in a sponge which is enclosed in a sealed unit. Puncture or tampering with the unit presents the following health hazards from the liquid Electro-Lyte.

Eye Contact. Irritation, redness.
Bloodshot eyes are a common first symptom of azide exposure.

Skin Contact. Irritation. Absorption through skin by continuous contact causes azide poisoning, which typically begins with bloodshot eyes, then leads progressively to headache, dizziness, nausea and collapse.

Inhalation. Vapours or mist may irritate respiratory tract. Continuous inhalation of ambient vapours over several hours may give mild symptoms of azide poisoning. Inhalation of mist could have severe consequences similar to ingestion.

Ingestion. Immediate effects of azide poisoning. Nausea, vomiting, collapse.
Probable lethal oral dose of ATS Electro-Lyte is about 10 ml.

Carcinogenicity. Not classifiable as a human carcinogen [IARC=NO, NTP=NO, OSHA=NO].

Mutangenicity. Mutagenic and teratogenic effects in humans have been reported from ingestion of some components of the Electro-Lyte.

B. First Aid.

Eye Contact.	Irrigate with water for at least 15 minutes. Get medical aid.
Skin Contact.	Wash thoroughly with water, then with soap and water. Remove contaminated clothing. Get medical aid.
Inhalation.	Remove to fresh air. Get medical aid.
Ingestion.	*Do not give anything by mouth to an unconscious person.* If conscious, wash mouth with water, give plenty of water to drink. Get medical aid immediately.

SECTION 7. LEAK PROCEDURES. ATS Electro-Lyte.

In normal use the Electro-Lube unit does not present a release hazard. Puncture or tampering with the unit may release a few millilitres of Electro-Lyte which requires the following procedures.

Cleanup.	Wear appropriate protective equipment [gloves and goggles]. Use non-metallic containers. Absorb in porous medium [eg. Vermiculite] with a mild alkali [eg. sodium bicarbonate or carbonate (ie. baking or washing soda)].
Disposal.	Comply with local disposal regulations.

SECTION 8. PERSONAL PROTECTION. ATS Electro-Lyte.

In normal use the Electro-Lube unit does not require personal protection. Puncture or tampering with the unit may release a few millilitres of Electro-Lyte which requires the following personal precautions.

Eye protection.	Goggles.
Skin protection.	Gloves - preferably butyl rubber.
Respiratory protection.	A mist filter is adequate in normal conditions. Maintain good ventilation. In case of temperature above 100 ^{o}C [eg. a fire] see Sections 4 and 5 above.

SECTION 9. STORAGE AND HANDLING. ATS Electro-Lyte.

Storage of Electro-Lube Units.	General warehouse at temperature below 40 ^{o}C. Store away from acids and heavy metal salts in case of breakage and contamination of Electro-Lyte with incompatible substances.

Special handling precautions for Electro-Lube units. None.

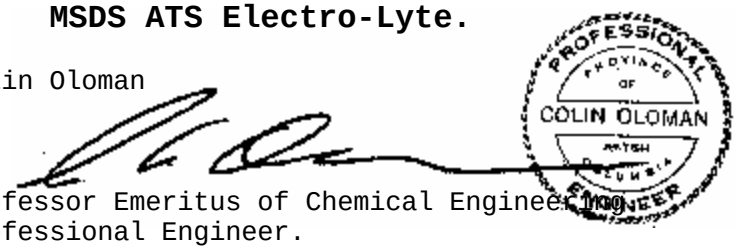
CAS = Chemical Abstract Service number. **NA** = Not Applicable. **NE** = Not Established.
TLV = Threshold Limit Value. **LD50** = Lethal Dose, causing death of 50% of population.

SECTION 10. SOURCE. MSDS ATS Electro-Lyte.

Prepared by

Name. Colin Oloman

Signature.



Title. Professor Emeritus of Chemical Engineering
Professional Engineer.
Director ATS Electro-Lube International Inc.

Telephone. 604-946-1308
Date. 04 December 2004

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