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U.S. DEPARTMENT OF LABOR

Occupational Safety and Health Administration

MATERIAL SAFETY DATA SHEET

SECTION I	
MANUFACTURER'S NAME Thompson & Formby Inc.	EMERGENCY TELEPHONE NO. (901) 685-7555
ADDRESS 10136 Magnolia Drive Olive Branch, MS 38654	INFORMATION TELEPHONE NO. (601) 895-5594
PRODUCT TYPE Lubricant Mixture	PRODUCT NAME Tri-Flow / Tri-Flow Aerosol
PRODUCT CLASS Penetrating Lubricant	PRODUCT COMPOSITION Petroleum Distillates Chlorinated Solvents and Additives

SECTION II — HAZARDOUS INGREDIENTS				
CHEMICAL NAME	CAS #	APPROX % BY WT.	TLV	PEL
1,1,1-Trichloroethane	71-55-6	25	350 ppm	350 ppm
n-Amyl Acetate	628-63-7	2	100 ppm	100 ppm
Dipropylene Glycol Monomethyl Ethyl (DPM)	34580-94-8	2	100 ppm	100 ppm
Aliphatic Hydrocarbon Oil (as Oil Mist)	64741-96-4	32	5 mg/m3	
Mixture of Zinc Salt of Dialkylphosphorodithioic Acid	Unknown	1	Not est.	Unknown
Propane (aerosol only)	74-98-6	10	Not est.	1000 ppm
Isobutane (aerosol only)	75-28-5	10	Not est.	Unknown
NON HAZARDOUS INGREDIENTS				
Polytetrafluoroethylene	N/A	1-5%	N/A	N/A
Corrosion Inhibitors	6170-48-5	7-15%	N/A	N/A
Antiwear Agents	2215-35-2	1-5%	N/A	N/A
Mineral Spirits	64742-88-7	5-10%	N/A	N/A
1,1,2-Trichloro - 2,2,1-Trifluoroethane	76-13-1	1-5%	N/A	N/A

SECTION III — PHYSICAL DATA			
BOILING I.P.B. (deg. F)	212	SPECIFIC GRAVITY (H2O=1)	.998 g/ml
VAPOR PRESSURE (mm Hg.)	23.75	WEIGHT PER GALLON	8.34
VAPOR DENSITY (Air=1)	Heavier than air	VOLATILE ORGANIC CONTENT	
EVAPORATION RATE (Ethyl Ether=1)	Slower	(grams per liter less water)	N/A
	than ether	PERCENT VOLATILE BY WEIGHT	65
APPEARANCE AND ODOR: Amber, opaque liquid; odor - banana; two phase liquid and solid. Product should be agitated before use.			

SECTION IV — FIRE AND EXPLOSION HAZARD DATA		
FLAMMABILITY CLASSIFICATION OSHA - Non-Flammable DOT - ORM-D	FLAMMABLE LIMIT LEL	Unknown
	FLASH POINT (Method Used): Seta 154 deg. F	
EXTINGUISHING MEDIA: Foam, Carbon Dioxide, or Dry Chemical.		
UNUSUAL FIRE AND EXPLOSION HAZARDS: None other than those associated with combustible petroleum distillates or self-pressurized containers when Tri-Flow is packaged as an aerosol.		
SPECIAL FIRE FIGHTING PROCEDURES: Wear self-contained breathing apparatus with a full face-piece operating in pressure-demand or positive pressure mode when fighting fires.		

SECTION V — HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE: Eye - can cause irritation, redness, tearing, blurred vision. Skin - prolonged or repeated contact can cause moderate irritation, defatting, dermatitis. Breathing - excessive inhalation of vapors can cause nasal and respiratory irritation, dizziness, weakness, fatigue, nausea, headache, possible unconsciousness, and even asphyxiation. Swallowing - can cause gastrointestinal irritation, nausea, vomiting, and diarrhea. Aspiration of material into the lungs cause chemical pneumonitis which can be fatal.

MEDICAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE: None known.

PRIMARY ROUTE(S) OF ENTRY: Inhalation and dermal.

TOXICITY INFORMATION: Oral Toxicity LD50-22.5 ml/kg.

EMERGENCY AND FIRST AID PROCEDURES: Skin - thoroughly wash exposed area with soap and water. Remove contaminated clothing. Launder contaminated clothing before re-use. Eyes - flush with large amounts of water, lifting upper and lower lids occasionally, get medical attention. Swallowing - do not induce vomiting, keep person warm, quiet, and get medical attention. Aspiration of material into the lungs due to vomiting cause chemical pneumonitis which can be fatal. Breathing - if affected, remove individual to fresh air. If breathing is difficult, administer oxygen. If breathing has stopped give artificial respiration. Keep person warm, quiet, and get medical attention.

SECTION VI — REACTIVITY DATA

STABILITY	UNSTABLE		HAZARDOUS	WILL OCCUR	
	STABLE	X	POLYMERIZATION	WILL NOT OCCUR	X

CONDITIONS TO AVOID: Keep away from heat, spark, flames and other sources of ignition.

INCOMPATIBILITY (Materials to avoid): Strong Oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon Dioxide, Carbon Monoxide and possibly Hydrogen Chloride, Chlorine Gas and Phosgene.

SECTION VII — SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Handle as a combustible liquid. Absorb on sand, clay, or other absorbent materials. Eliminate ignition sources.

WASTE DISPOSAL METHOD: Dispose of in accordance with local, state and federal regulations governing combustible waste containing 1, 1, 1-Trichloroethane.

SECTION VIII — SAFE HANDLING AND USE INFORMATION

RESPIRATORY PROTECTION: If TLV is exceeded then use NIOSH/MSHA approved respirator.

VENTILATION: Use with adequate ventilation to prevent exceeding TLV.

PROTECTIVE GLOVES: Hydrocarbon-insoluble rubber or plastic.

EYE PROTECTION: Safety glasses or goggles are recommended when transferring bulk liquid.

OTHER PROTECTIVE EQUIPMENT: None.

HYGIENIC PRACTICES: Avoid skin contact. Wash contaminated skin and clothing with soap and water.

SECTION IX — SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Keep containers closed. Store and use away from high temperature, sparks or open flame. Use only with adequate ventilation.

OTHER PRECAUTIONS: Avoid prolonged and repeated breathing of vapor or contact with skin. When Tri-Flow is packaged as an aerosol: Extremely flammable - contents under pressure - Do not store near heat, sparks or flame. Do not puncture, incinerate or store above 120 deg. F. KEEP OUT OF REACH OF CHILDREN.