

SECTION 1 – PRODUCT & COMPANY IDENTIFICATION

Product Identification	GLYCERIN – Used in Pressure Indicator 13.7 Liquid (P/N : VPINDBARGL 13.7)		
Application & Use	The ETI pressure indicator is fitted to foam valves and to some loss of pressure actuators. The indicators are filled with glycerin to make the indicator more resistant to vibration and shock.		
Manufacturer Address	PT ETI FIRE SYSTEMS Jl. Magelang – Kopeng Km 11 Tegalrejo Magelang – Central Java 56192 Indonesia Phone : +62 293 314 8990 FAX : +62 293 314 8991 Email : info@etifiresystems.com Website : www.etifiresystems.com		
Applicable Part Numbers	VPINDBARGL 13.7		

SECTION 2 – COMPOSITION

INGREDIENT	CONCENTRATION %	CAS NO.	Q'ty (per indicator)
Glycerin (C ₃ H ₅ (OH) ₃)	100%	56-81-5	25 ml net

SECTION 3 – HAZARD IDENTIFICATION

Potential Acute Health Effect	Slightly hazardous in case of skin contact (irritant, permeator), of eye contact (irritant), of ingestion, of inhalation.		
Potential Chronic Health Effect			
Carcinogenic effect	Not Available		
Mutagenic effect	Not Available		
Teratogenic effect	Not Available		
Developmental toxicity	Not Available		
	The substance may be toxic to kidneys. Repeated or prolonged exposure to the substance can produce target organs damage.		

SECTION 4 – FIRST AID MEASURES

Skin	Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. Cold water may be used.
Eye	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention if irritation occurs.
Ingestion	DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.
Serious ingestion	Not available
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

SECTION 5 – FIRE FIGHTING MEASURES

Flammability	May be combustible at high temperature.
Auto-Ignition Temperature	370 ^o C (698 ^o F) to 392 ^o C (739 ^o F)
Flash Point	Close cup : 160 ^o C (320 ^o F)

	Open cup : 177 ^o C (350.6 ^o F) to 199 ^o C (390 ^o F)
Flammable limits	Lower : 0.9%
Products of combustion	These products are carbon oxides (CO, CO ₂), irritating and toxic fumes.
Fire Hazards in Presence	Slightly flammable to flammable in presence of open flames and sparks, of heat, of oxidizing materials. Non-flammable in presence of shocks.
Explosion Hazards in Presence	Risks of explosion of the product in presence of mechanical impact: Not Available. Risks of explosion of the product in presence of static discharge : Not Available Explosive in presence of oxidising materials.
Extinguishing Media	Small fire : Use dry chemical powder Large fire : use water spray, fog or foam. Do not use water jet.
Remarks on fire hazards	Not available
Remarks on explosion hazards	Glycerin is incompatible with strong oxidizers such as chromium trioxide, potassium chlorate or potassium.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Small Spillage	Dilute with water and mop up or absorb with an inert dry material and place in an appropriate waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
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SECTION 7 – HANDLING AND STORAGE

Precautions	ETI pressure indicators are supplied standard with glycerin filling complete. When shipped via air freight, the indicators may leak due to pressure changes in flight. In these cases, the indicators can be supplied unfilled and the glycerin can be supplied in a separate bottle of no more than 1 litre. The user may then fill the indicators before use.
Handling	Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/vapour/spray. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidising agents.
Storage	Keep container tightly closed. Keep container in a cool, well-ventilated area. Hygroscopic.

SECTION 8 – EXPOSURE CONTROL & PERSONAL PROTECTION

Engineering control	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.
Personal protective	Safety glasses, lab coat, vapour respiration. Be sure to use an approved/certified respirator or equivalent. Gloves.

SECTION 9 – PHYSICAL & CHEMICAL PROPERTIES

APPEARANCE	Liquid. (Viscous (Syrupy) liquid) p.3
Odor	Mild
Taste	sweet
Molecular weight	92.09 g/mole
Color	Clear colourless

pH (1% soln/water)	Not Available
Boiling Point	290°C (554°C)
Melting Point	19°C (66.2°C)
Critical temperature	Not available
Specific Gravity	1.2636
Vapor pressure	0 kPa (@ 20°C)
Vapor Density	3.17
Volatility	Not available
Odor threshold	Not available
Water/Oil Dist. Coefficient	The product is more soluble in water; log (oil/water) = -1.8
Ionicity (in water)	Not available
Dispersion properties	See solubility in water, acetone
Solubility	Miscible in cold water, hot water and alcohol. Partially soluble in acetone. Very slightly soluble in diethyl ether (ethyl ether). Limited solubility in ethyl acetate. Insoluble in carbon tetrachloride, benzene, chloroform, petroleum ethers and oils.

SECTION 10 – REACTIVITY & STABILITY

Stability	The product is stable
Instability Temperature	Not available
Conditions of Instability	Avoid contact with incompatible materials, excess heat and ignition sources, moisture.
Incompatibility substances	Highly reactive with oxidising agents.
Corrosivity	Non corrosive in presence of glass.
Remark on Reactivity	Hygroscopic Glycerin is incompatible with strong oxidisers such as chromium trioxide, potassium chlorate or potassium permanganate. Glycerin may react violently with acetic anhydride, aniline and nitrobenzene, chromic oxide, lead oxide and fluorine, phosphorous triiodide, ethylene oxide and heat, silver perchlorate, sodium peroxide, sodium hydride.
Remark on Corrosivity	Not Available
Polymerization	Will not occur

SECTION 11 – TOXICOLOGICAL INFORMATION & HEALTH EFFECT

By Exposure	Routes of entry : Absorbed through skin. Eye contact.
Acute potential health effect	Low hazard for normal industrial handling or normal workplace conditions.
Inhalation	Due to low vapour pressure, inhalation of the vapours at room temperature is unlikely. Inhalation of mist may cause respiratory tract irritation.
Ingestion	Low hazard. Low toxicity except with very large doses. When large doses are ingested, it can cause gastrointestinal tract irritation with thirst (dehydration), nausea or vomiting diarrhea. It may also affect behavior/central nervous system (central nervous system depression, general anesthetic, headache, dizziness, confusion, insomnia, toxic psychosis, muscle weakness, paralysis convulsions), urinary system/kidneys (renal failure hemoglobinuria), cardiovascular system (cardiac arrhythmias), liver. It may also cause elevated blood sugar. Prolonged or repeated ingestion may affect the blood (hemolysis, changes in white blood cell count), endocrine system (changes in adrenal weight), respiratory system and may cause kidney injury.

Eye	May cause irritation with stinging, redness, burning sensation and tearing but no eye injury.
Skin	May cause skin irritation. May be absorbed through skin.

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity	Ecotoxicity in water (LC50) : 58.5 ppm 96 hours (Trout)
BOD5 and COD	Not available
Biodegradability	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of Biodegradation	The products of degradation are less toxic than the product itself.
Remarks on Biodegradation	Not Available

SECTION 13 – DISPOSAL CONSIDERATION

Refer to local authority regulations if disposal is required.

SECTION 14 – TRANSPORT INFORMATION

DOT Classification	Not a DOT controlled material (United States)
Identification	Not applicable
Special Provision for Transport	Not applicable

SECTION 15 – REGULATORY INFORMATION

None Known

SECTION 16 – OTHER INFORMATION

Information	First issue April 2010
Revision & Re-Issued	Mar 2015 Re-issued B Sept 2017 Rev. C

Disclaimer

This document has been compiled by ETI Fire Systems to serve as the manufacturer's material Safety Data Sheet (MSDS). It is based on information concerning the product which has been provided to ETI by other manufacturer or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. While ETI has taken all due care to include accurate and up-to-date information in this MSDS, ETI in no manner whatsoever, expressly or implied, warrants this information to be accurate and disclaims all liability for its use. Any person utilizing this document should seek competent professional advice to verify and assume responsibility for the suitability of this information to their particular situation.