

SECTION 1. Identification of the substance and of the company

Product details

Name Used on Label	:	Thermal EG-A1
Order-No. (5 gal)	:	8891422
(55 gal)	:	8891311
Company	:	JULABO U.S.A., INC
Manufactured for:	:	884 Marcon Blvd ALLENTOWN, PA 18109 / U.S.A.
Phone	:	[+1] 610-231-0250
Fax	:	[+1] 610-231-0260
E-mail	:	info@julabo.us
Internet	:	www.julabo.us
Emergency Information	:	CHEMTREC 1-800-424-9300
Application	:	Bath fluid for laboratory circulators Working temperature range -30 °C - +80 °C Ethylene glycol /water mixture with additive for use in direct contact with aluminum components

SECTION 2. Hazards identification

Substance or mixture classification

This product is classified and labeled in accordance with GHS regulation and relevant national laws.

GHS-US classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute Tox. 4 (Oral) H302

STOT RE 2 H373

Labeling GHS Pictograms, including precautionary phrases



GHS08 Health hazard
H373 - May cause damage to organs through prolonged or repeated exposure.



GHS07
H302 - Harmful if swallowed

Precautionary statements

P260 – Do not breathe mist, spray, vapors

P264 - After contact with skin, wash immediately with plenty of soap and water

P 270 - Do not eat, drink or smoke when using this product

P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor / physician if you feel unwell.

P314 – Get medical attention / advice if you feel unwell

P330 – Rinse mouth

P501 – Dispose of contents / container to an authorized waste collector

HMIS CODES: HEALTH: 1 FLAMMABILITY: 0 REACTIVITY: 0 Personal Protection: D

SECTION 3. Composition/information on ingredients

Mixture

Identity	CAS #	%	GHS-US classification
Ethylene glycol	107-21-1	15-100	Acute Tox. 4 (Oral), H302 STOT RE 2, H373
Deionized water	7732-18-5	5-90%	Not hazardous
Inhibitor solution (trade secret)	n/a	<12%	Not hazardous

Full text of H-phrases: see Section 16

Other hazards: No additional information available

Unknown acute toxicity: Not applicable

SECTION 4. First aid measures

Description of first aid measures

General information: Immediately remove any clothing soiled by the product

After inhalation: Supply fresh air; consult doctor in case of complaints

After skin contact: Immediately wash with water and soap and rinse thoroughly

After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing: Rinse mouth. Do NOT induce vomiting. Call for a doctor immediately

Most important symptoms and effects, both acute and delayed

Symptoms / injuries

: Causes damage to organs through prolonged or repeated exposure

Symptoms / injuries after inhalation:

: Inhalation may cause: irritation, coughing, shortness of breath

Symptoms / injuries after ingestion:

: Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

Indication of any immediate medical attention and special treatment needed

All treatments should be based on observed signs and symptoms of distress in the patient.

SECTION 5. Firefighting measures

Extinguishing media

Suitable extinguishing media

: Foam, dry powder, carbon dioxide, water spray, any ABC class

Unsuitable extinguishing media

: Do not use a solid water stream as it may scatter and spread fire.

Special hazards arising from the substance or mixture

In case of fire, the following can be released

: Carbon monoxide (CO)

Advice for firefighters

Protective equipment

: Wear self-contained respiratory protective device.

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

General measures

: Avoid all eye and skin contact and do not breathe vapor and mist.

For non-emergency personnel

Protective equipment

: Wear suitable protective clothing and gloves. Chemical goggles or safety glasses.

Emergency procedures

: Evacuate unnecessary personnel. Ventilate area.

For emergency responders

Protective equipment

: Wear suitable protective clothing and gloves. Chemical goggles or safety glasses

Environmental precautions

Prevent entry to sewers and public waters.

Methods and material for containment and cleaning up

For containment

: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Absorb and/or contain spill with

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Methods for cleaning up

inert material, then place in suitable container.

: Soak up spills with inert solids such as clay, sawdust, or diatomaceous earth as soon as possible. Collect spillage.

Reference to other sections

Disposal information: Section 13

Safe handling: Section 7

Personal protective equipment: Section 8

SECTION 7. Handling and storage

Precautions for safe handling

Use only in well ventilated areas. Open and handle receptacle with care.

Information about fire and explosion protection: No special measures required.**Conditions for safe storage, including any incompatibilities**

Storage : Keep only in the original container in a cool, well ventilated place. Keep container tightly closed. Do not store near food, foodstuffs, drugs or potable water supplies.

Incompatible products : Strong bases, strong acids, strong oxidizers

Specific end use : Heat transfer fluid

SECTION 8. Exposure controls / personal protection

Control parameters

Ingredients with limit values that require monitoring in the workplace

Ethylene glycol [107-21-1]

ACGIH	ACGIH Ceiling (mg/m ³)	100 mg/m ³
ACGIH	ACGIH Ceiling (ppm)	39.4 ppm
ACGIH	Remark (ACGIH)	URT and eye irr
OSHA	Not applicable	

Exposure controls

Appropriate engineering controls

: Provide adequate general and local exhaust ventilation.

Personal protective equipment

: Avoid all unnecessary exposure.

Hand protection

: Wear suitable gloves resistant to chemical penetration. Butyl rubber or nitrile rubber.

Eye protection

: Chemical goggles or safety glasses

Respiratory protection

: In case of inadequate ventilation wear respiratory protection.

Other information

: Do not eat, drink or smoke during use.

SECTION 9. Physical and chemical properties

Information on basic physical and chemical properties**General information****Appearance (physical state, form color)****Form:**

Fluid

Color:

Clear, green

Odor:

Characteristic

pH

7.0 – 11.0

Melting / Freezing point

-37 °C; -16.7 °C (2 °F) for >99% concentration

Boiling point

>100 °C (>212 °F)

Flash point

120.5 °C for 100% | none for concentrations <80%

Auto-ignition temperature

none

Danger of explosion

Product does not present an explosion hazard

Vapor pressure at 20 °C

0.08 mmHg @ 25 °C

Density at 20 °C

1.0 – 1.2 g/mL @ 25 °C (77 °F)

Solubility in water

completely soluble

Viscosity

>1cP at 25 °C (77 °F)

Solvent content VOC

0.00%

Evaporation rate

1

Upper/lower flammability or explosive limits

Upper (UEL): 15x3% (V); Lower (LEL): 3.2% (V) – undiluted

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Vapor density	2.14 (air = 1.0)
Partition coefficient: n-octanol/water	logP = -1.36
Other information	No additional information available

SECTION 10. Stability and reactivity

Chemical Stability:	Stable
Reactivity	Hazardous polymerization will not occur.
Chemical Stability	Stable under normal conditions
Possibility of hazardous reactions	Stable under normal conditions
Conditions to avoid	Contact with incompatible chemicals & exposure to extremely high temperatures.
Incompatible materials	Strong oxidizers, strong acids, acid chlorides, acid anhydrides, chloroformates, or strong reducing agents.
Hazardous decomposition products	Mainly carbon dioxide and carbon monoxide

SECTION 11. Toxicological information

Information on toxicological effects

Acute toxicity Oral: Harmful if swallowed.

Ethylene glycol [107-21-1]	
LD50 oral rat	4,700 mg/kg
LD50 dermal rabbit	10,626 mg/kg
ATE US oral	500.0 mg/kg bodyweight

Skin corrosion / irritation	Not classified
Serious eye damage / irritation	Eyes – rabbit. Result: mild eye irritation, 24h
Respiratory or skin sensitization	Not classified
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified

Ethylene glycol [107-21-1]	
IARC group	Not listed in carcinogenicity class

Reproductive toxicity	Not classified
Specific target organ toxicity (single exposure)	Not classified
Specific target organ toxicity (repeated exposure)	May cause damage to organs through prolonged or repeated exposure.

Ethylene glycol [107-21-1]	
NOAEL (oral, rat, 90 days)	150 mg/kg bodyweight/day kidney

Aspiration hazard	Not classified
Symptoms / injuries after inhalation	Inhalation may cause: irritation, coughing, shortness of breath
Symptoms / injuries after ingestion	Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard.
Likely routes of exposure	Skin and eyes contact, inhalation

Additional information: RTECS: KW2975000

When ingested early symptoms mimic alcohol inebriation followed by nausea, vomiting, abdominal pain, weakness, muscle tenderness, respiratory failure, convulsions, cardiovascular collapse, pulmonary edema, hypocalcemic tetany, and severe metabolic acidosis. Without treatment, death may occur in 8 to 24 hours. Victims who survive the initial toxicity period usually develop renal failure along with brain and liver damage. Exposure to and/or consumption of alcohol may increase toxic effects.

SECTION 12. Ecological information

Toxicity

Ethylene glycol [107-21-1]	
LC50 fishes l	18,500 mg/L, 96h rainbow trout
EC50 Daphnia l	74,000 mg/L, 24 h
NOEC chronic fish	32,000 mg/L Pimephales promelas
NOEC chronic crustacea	24,000 mg/L daphnia magna.

Persistence and degradability

Ethylene glycol [107-21-1]	
Persistence and degradability	Readily biodegradable

Bioaccumulative potential

Ethylene glycol [107-21-1]	
Log Pow	-1.36
Bioaccumulative potential	Not expected to bioaccumulate

Mobility in soil

No additional information available

SECTION 13. Disposal considerations

Waste treatment methods

Sewage disposal recommendations

Do not dispose of waste into sewer

Waste disposal recommendations

Dispose in a safe manner in accordance with local / national regulations.

Ecology – waste materials

Avoid release to the environment.

SECTION 14. Transport information

In accordance with DOT

UN number: 3082 Class: 9 Packing group: III Proper shipping name: Environmentally hazardous substance, liquid, n.o.s.

(Ethylene glycol) Reportable Quantity (RQ): 5000 lbs no Poison Inhalation

Hazard: No

Additional information

IMDG

Not dangerous goods

IATA

Not dangerous goods

SECTION 15. Regulatory information

US Federal regulations

Ethylene glycol [107-21-1]	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
EPA TSCA Regulatory Flag	T – T – indicates a substance that is the subject of a Section 4 test rule under TSCA.
RQ (Reportable quantity, section 304 of EPA's List of Lists)	5000 lb
SARA Section 313 – Emission Reporting	>95%

International regulations

CANADA

Ethylene glycol [107-21-1]	
Listed on the Canadian DSL (Domestic Substances List) inventory	

EU-Regulations

Ethylene glycol [107-21-1]	
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)	

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Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute Tox. 4 (Oral)

H302

STOT RE 2

H353

Full text of H-phrases: see section 16

Classification according to Directive 67-548-EEC [DSSD] or 1999-45-EC [DPD]

Xn; R22

National regulations

Ethylene glycol [107-21-1]
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing * New Chemical Substances) inventory
Listed on KECI (Korean Existing Chemicals Inventory)
Listed on Taiwan National Chemical Inventory
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on the AICS (Australian Inventory of Chemical Substances)

US State regulations

Ethylene glycol [107-21-1]
Minnesota – Hazardous Substance List
Pennsylvania – List of Hazardous Substances
New Jersey – Right to Know Hazardous Substance List

Section 16. Other information**FDA:** This product is not registered with the FDA.**California Prop. 65 Components**

This product contains ethylene glycol which is known to the State of California to cause cancer, birth, or other reproductive defects.

Abbreviations and acronyms

ACGIH: (American Conference of Government Industrial Hygiene)
 ATE: Acute Toxic Estimate
 CAS: (Chemical Abstracts Number) number
 CLP: Classification, Labeling, Packaging
 DNEL: Derived No Effect Level
 EC50: Environmental Concentration associated with a response by 50% of the test population
 GHS: Globally Harmonized System (of Classification and Labeling of Chemicals)
 LD50: Lethal Dose for 50% of the test population
 NOEC: No Observable Effect Concentration
 OSHA: Occupational Safety & Health Administration
 PBT: Persistent, Bioaccumulative, Toxic
 PNEC: Predicted No Effect Level
 STEL: Short Term Exposure Limits
 TSCA: Toxic Substances Control Act
 TWA: Time Weight Average

Relevant phrases

Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment, Acute Hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, Chronic Hazard, Category 2
Eye Dam. 1	Serious eye damage / eye irritation, Category 1
Ox.Sol. 3	Oxidizing Solids, Category 3
Skin Corr. 1B	Skin corrosion / irritation, Category 1B

STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2
H272	May intensify fire, oxidizer
H301	Toxic if swallowed
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects

NFPA health hazard : 1 – Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials.

NFPA fire hazard : 0 – Must be preheated before ignition can occur

NFPA reactivity : 0 – Normally stable, even under fire exposure conditions, and not reactive with water.

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