



Material Safety Data Sheet

(Essentially Similar to U.S. Department of Labor Suggested
Form For Hazard Communication Compliance)

Hazard Ratings

- 4 = Extreme
- 3 = High
- 2 = Moderate
- 1 = Slight
- 0 = Insignificant

I. Product Identification

Product Type - PROPYLENE

Product Name - FG-2, ESAB P/N 999313 (15 oz Disposable Cylinder)

Website: www.esabna.com

Classification - FUEL FOR TORCH HEATING, BRAZING AND SOLDERING

Manufacturer - THE ESAB GROUP, INC.

Telephone No. - 1-843-669-4411

Address - P. O. Box 100545
Florence, SC 29501-0545

Emergency No. - 1-843-669-4411
(CHEMTREC) 1-800-424-9300

THE ESAB GROUP requests the users of these products to study this Material Safety Data Sheet (MSDS) and the product labels and become fully aware of the product hazards and safety information. To promote the safe use of these products a user should (1) notify and train its employees, agents and contractors concerning the information on this MSDS and any product hazards and safety information, (2) furnish this same information to each of its customers for these products, and (3) request that such customers notify and train their employees and customers, for these products, of the same product hazards and safety information.

II. Hazardous Ingredients*

IMPORTANT: This section covers the materials from which this product is manufactured. The fumes and gases produced during normal use of these products are covered in Section V. The term **HAZARDOUS** should be interpreted as a term required and defined by Laws, Statutes or Regulations, and does not necessarily imply the existence of any hazard when the products are used as directed by **THE ESAB GROUP**.

All applicable requirements for radioactive materials (including exposure limits) contained in 29 CFR 1910.96 (OSHA) and 10 CFR Parts 20 and 40 (NRC) should be met.

Material	(CAS No.)	Weight %	OSHA Exposure Limits
** Propylene [synonyms: propene, methylethene, methylethylene, 1-propene, 1-propylene]	(115-07-1)	100%	Simple asphyxiant (None currently established)

* The term "hazardous" should be interpreted as a term required and defined in the OSHA Hazard Communications Standard (29CFR 1910.1200) and does not necessarily imply the existence of any hazard. Some of the products listed may not contain all of the ingredients shown in Section II. Typical analyses can be found in the appropriate AWS Specification or from your supplier.

** Considered toxic by and is subject to reporting requirements of Section 313 of Title III of Superfund Amendments and Reauthorization Act of 1986 (SARA) and 40 CFR, Part 372.

STATE RIGHT-TO-KNOW

CALIFORNIA Proposition 65

This product contains the following substances whose levels the State of California has found to cause cancer, birth defects or other reproductive harm, which requires a warning under the statute:

None

MASSACHUSETTS Right-to-Know Substance List (MSL)

This product contains the following substances on the MSL:

Hazardous Substances: Propylene

Extremely Hazardous Substances: None

NEW JERSEY Right-to-Know Substance List (NJHSL)

This product contains the following substances on the NJHSL:

Hazardous Substances: None

Environmental Hazardous Substances: None

Special Health Hazards: Propylene

PENNSYLVANIA Right-to-Know Substance List (MSL)

This product contains the following substances whose level requires reporting:

Hazardous Substances: None

Special Hazardous Substances: None

Environmental Hazardous Substances: Propylene

III. Physical and Chemical Characteristics

<u>Boiling Point</u> (°F @ 760 mm Hg):	-47.7°C (-53.9°F)	<u>Freezing Point:</u>	-185°C (-301°F)
<u>Specific Gravity</u> (H ₂ O = 1):	0.514@ 20°C	<u>Vapor Pressure @ 21°C:</u>	136.6 psig
<u>Vapor Density</u> (air+1):	1.48	<u>Solubility in Water:</u>	Negligible
<u>Percent Volatiles by Volume:</u>	100	<u>Evaporation Rate:</u>	High
<u>Odor and Appearance:</u>	Colorless gas at normal temperature and pressure; faintly sweet odor.		

IV. Fire & Explosion Hazard

Flammable gas. Forms explosive mixtures with air and oxidizing agents. Container may rupture due to heat of fire. Do not extinguish flame due to possibility of explosive re-ignition. Flammable vapors may spread from the spill. Explosive atmospheres may linger. Is heavier than air and may collect in low-lying areas. Before entering area, especially confined areas, check atmosphere with approved device. No part of a container should be subjected to a temperature higher than 52°C (approximately 125°F). Vapors form from this product and may travel or be moved by air currents and ignited by pilot lights, other flames, smoking, spark heaters, electrical equipment, static discharge or other ignition sources and locations distant from product handling point.

V. Reactivity Data

Hazardous Decomposition Products:

Welding fumes and gases cannot be classified simply. The composition and quantity of both are dependent upon the metal being welded, the process, procedures filler metals and electrodes used. Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include: coatings on the metal being heated (such as paint, plating, or galvanizing), the number of welders and the volume of the work area, the quality and amount of ventilation, the position of the welder's head with respect to the fume plume, as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from cleaning and degreasing activities).

Gaseous reaction products from propane may include carbon monoxide and carbon dioxide.

Mixtures: When two or more gases, or liquefied gases are mixed, their hazardous properties may combine to create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist, or other trained person when you make your safety evaluation of the end product. Remember, gases and liquids have properties which can cause serious injury or death.

One recommended way to determine the composition and quantity of fumes and gases to which workers are exposed is to take an air sample inside the welder's helmet if worn or in the worker's breathing zone. See ANSI/AWS F1.1 "Method for Sampling Airborne Particles Generated by Welding and Allied Process" available from the American Welding Society, P. O. Box 351040, Miami, FL 33134.

VI. Physical and Health Hazard Data

Medical Conditions Aggravated by Overexposure: A knowledge of the available toxicology information and of the physical and chemical properties of the material suggests that overexposure is unlikely to aggravate existing medical conditions.

Threshold Limit Value: The ACGIH 1988-89 recommended limit for welding fume, not otherwise classified (NOC) is 5 mg/m³. TLV-TWA's should be used as a guide in the control of health hazards and not as fine lines between safe and dangerous concentrations. See Section V for specific fume constituents which may modify this TLV-TWA.

Effects of Overexposure: Electric arc welding or oxy-fuel gas processes may create one or more of the following hazards:

- **Fumes and Gases** can be dangerous to your health. Primary route of entry is by inhalation.
Short-term (acute) overexposure to welding fumes may result in discomfort such as dizziness, nausea, or dryness or irritation of the nose, throat, or eyes. Short term overexposure to propane gas by inhalation can cause asphyxiation; moderate concentrations may cause headache, drowsiness, dizziness, vomiting and unconsciousness. Lack of oxygen can cause death, contact with liquid may cause frostbite.
Long term (chronic) overexposure to welding fumes can lead to siderosis (iron deposits in lung) and affect pulmonary function.
- **Noise** can damage hearing.
- **Carcinogenic Assessment:** Per IARC, not classifiable as human carcinogen (Group 3); human evidence is no adequate data; animal evidence is no adequate data.
- **Emergency First Aid Procedures:** Call for medical aid. Employ first aid techniques recommended by the American Red Cross. IF BREATHING IS DIFFICULT, give oxygen. Call a physician. IF NOT BREATHING, begin artificial respiration, preferably mouth-to-mouth. If no detectable pulse, begin external heart massage. Immediately call a physician.

VII. Precautions for Safe Handling and Use/Applicable Control Measures

Read and understand the manufacturer's instructions and the precautionary label on this product. See American National Standard Z-49.1, "Safety in Welding and Cutting," published by the American Welding Society, P. O. Box 351040, Miami, FL 33135 and OSHA Publication 2206 (29 C.F.R. 1910), U.S. Government Printing Office, Washington, D.C. 20402; and ESAB's publications 52-529 and 2035 for more details on many of the following:

Fire: To fight fire, stop flow of gas.

Ventilation: Use enough ventilation, local exhaust at the arc or both, to keep the fumes and gases below TLV's in the worker's breathing zone and the general area. May displace air in low-lying areas, causing increased concentration and greater need for ventilation. Train the welder to keep his head out of fumes. Use respirable fume respirator or air supplied respirator when welding in confined space or where local exhaust or ventilation does not keep exposure below TLV. Select as per OSHA 29 CFR 1910.134.

Eye Protection: Wear helmet, goggles or use face shield with filter lens. As a rule of thumb, start with a shade that is too dark to see the weld zone and then go to the next lighter shade (See ANSI Z49.1).

Protective Clothing and Equipment: Wear hand, head, and body protection which help to prevent injury from radiation, sparks and electrical shock. See ANSI Z49.1. At a minimum, this includes welder's gloves and protective face shield, and may include arm protectors, aprons, hats, shoulder protection, as well as dark substantial clothing.

Waste Disposal Method: Discard any product, residue, disposable container or liner in an environmentally acceptable manner, in full compliance with federal, state, and local regulations.

The opinions expressed in this MSDS are those of qualified experts within **THE ESAB GROUP**. We believe that the information contained herein is current as of the date of this MSDS. Since the use of this information and these opinions and the conditions of use of these products are not within the control of **THE ESAB GROUP**, it is the user's obligation to determine the conditions of safe use of these products.