

Praxair Material Safety Data Sheet

1. Chemical Product and Company Identification

Product Name: CO ₂ Indicator Solutions for Hydrocarbon Detectors (MSDS No. P-4896-F)	Trade Names: Praxair [®] CO ₂ Indicator Solutions for Hydrocarbon Detectors
Chemical Name: Mixture of water, xylene blue dye, sodium hydroxide, sodium carbonate, potassium chloride, and toluene	Synonyms: Hydrocarbon detector indicator solutions, part nos. 5738-7090, 5738-7100, 5738-7115, 5738-7150
Chemical Family: Not applicable.	Product Grades: Not applicable.
Telephone: Emergencies: 1-800-645-4633* CHEMTREC: 1-800-424-9300* Routine: 1-800-PRAXAIR	Company Name: Praxair, Inc. 39 Old Ridgebury Road Danbury, CT 06810-5113

**Call emergency numbers 24 hours a day only for spills, leaks, fire, exposure, or accidents involving this product. For routine information, contact your supplier, Praxair sales representative, or call 1-800-PRAXAIR (1-800-772-9247).*

2. Hazards Identification

EMERGENCY OVERVIEW

**CAUTION! Irritating liquid and vapor.
Mild eye irritant.**

This product is a clear, blue liquid solution with a slight aromatic hydrocarbon odor.

OSHA REGULATORY STATUS: The components of this material are considered hazardous by the OSHA Hazard Communications Standard (29 CFR 1910.1200).

POTENTIAL HEALTH EFFECTS:

Effects of a Single (Acute) Overexposure

Inhalation. No harm expected.

Skin Contact. No harm expected.

Swallowing. No harm expected.

Eye Contact. May cause minimal irritation, seen as mild local redness.

Effects of Repeated (Chronic) Overexposure. No harm expected.

Other Effects of Overexposure. None known.

Medical Conditions Aggravated by Overexposure. The toxicology and the physical and chemical properties of the components suggest that overexposure is unlikely to aggravate existing medical conditions.

CARCINOGENICITY: The IARC lists the toluene component as Group 3, not classifiable as to carcinogenicity to humans.

POTENTIAL ENVIRONMENTAL EFFECTS: No harm expected. For further information, see section 12, Ecological Information.

3. Composition/Information on Ingredients

See section 16 for important information about mixtures.

COMPONENT	CAS NUMBER	CONCENTRATION
Water	7732-18-5	>98.0%*
Xylenol blue dye	125-31-5	<0.5%*
Sodium hydroxide	1310-73-2	<0.5%*
Sodium carbonate	497-19-8	<0.5%*
Potassium chloride	7447-40-7	<0.5%*
Toluene	108-88-3	<0.5%*

*The symbol > means "greater than"; the symbol <, "less than."

4. First Aid Measures

INHALATION: No emergency care anticipated.

SKIN CONTACT: Flush with water. If discomfort persists, seek medical attention.

SWALLOWING: No harm expected.

EYE CONTACT: Flush with water. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. If discomfort persists, see a physician, preferably an ophthalmologist.

NOTES TO PHYSICIAN: Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

5. Fire Fighting Measures

FLAMMABLE PROPERTIES: Nonflammable

SUITABLE EXTINGUISHING MEDIA: CO₂ indicator solutions cannot catch fire. Use media appropriate for surrounding fire.

PRODUCTS OF COMBUSTION: Not applicable. See section 10 for possible products of thermal decomposition.

PROTECTION OF FIREFIGHTERS: CAUTION! Irritating liquid and vapor. No special procedures anticipated. On-site fire brigades must comply with OSHA 29 CFR 1910.156.

Specific Physical and Chemical Hazards. Heat of fire may build pressure in container, causing rupture. No part of a container should be subjected to temperatures above 125°F (51.1°C).

Protective Equipment and Precautions for Firefighters. Firefighters should wear clothing and equipment suitable for the surrounding fire.

6. Accidental Release Measures

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

CAUTION! Irritating liquid and vapor.

Ventilate area of spill or move leaking container to a well-ventilated area.

Personal Precautions. Do not get on skin, in eyes, or on clothing.

Environmental Precautions. Prevent waste from contaminating the surrounding environment. Keep personnel away. Discard any product, residue, disposable container, or liner in an environmentally acceptable manner, in full compliance with federal, state, and local regulations. If necessary, call your local supplier for assistance.”

Methods for Clean-up. Use solid absorbent to pick up spilled material.

7. Handling and Storage

PRECAUTIONS TO BE TAKEN IN HANDLING: Protect containers from damage. Do not get liquid or vapor in eyes, on skin, or on clothing. Have safety showers and eyewash fountains immediately available to exposed workers. Wash hands thoroughly after handling. Close container when not in use; keep closed even when empty. For other precautions in using this product, see section 16.

PRECAUTIONS TO BE TAKEN IN STORAGE: Store in a cool, dry area, suitable for storage of chemical solutions. Store and use with adequate ventilation.

8. Exposure Controls/Personal Protection

COMPONENT	OSHA PEL	ACGIH TLV-TWA (2009)
Water	N.E.*	N.E.*
Xylenol blue dye	N.E.*	N.E.*
Sodium hydroxide	2 mg/m ³	2 mg/m ³ (c)**
Sodium carbonate	N.E.*	N.E.*
Potassium chloride	N.E.*	N.E.*
Toluene	200 ppm, 300 ppm (c)**, 500 ppm (10 min.)***	20 ppm

*N.E.—Not Established.

** (c) – ceiling. Ceiling values are not Time-Weighted-Average (TWA).

***500 ppm max. peak above ceiling, 10 min. duration, 8-hour shift.

TLV-TWAs should be used as a guide in the control of health hazards and not as fine lines between safe and dangerous concentrations.

IDLH = 500 ppm (Toluene); 6 ppm (Sodium Hydroxide)

ENGINEERING CONTROLS:

Local Exhaust. Use a local exhaust ventilation system with sufficient air flow velocity to maintain concentration below all applicable exposure limits in the worker’s breathing zone.

Mechanical (General). Not recommended as a primary ventilation system to control worker’s exposure.

Special. None

Other. None

PERSONAL PROTECTIVE EQUIPMENT:

Skin Protection. Wear chemically protective gloves made of neoprene or Viton® (fluorocarbon rubber, registered trademark of E.I. DuPont de Nemours & Co., Inc.) wherever there is a risk of contact with the solution. Select in accordance with OSHA 29 CFR 1910.132 and 1910.133.

Eye/Face Protection. Safety glasses or protective goggles. Select in accordance with OSHA 29 CFR 1910.133.

Respiratory Protection. A respiratory protection program that meet OSHA 29 CFR 1910.134, ANSI Z88.2, or MSHA 30 CFR 72.710 (where applicable) requirements must be followed whenever workplace conditions warrant respirator use. Use an air-supplied or air-purifying cartridge if the action level is exceeded. Ensure that the respirator has the appropriate protection factor for the exposure level. If cartridge type respirators are used, the cartridge must be appropriate for the chemical exposure (e.g., an organic vapor cartridge). For emergencies or instances with unknown exposure levels, use a self-contained breathing apparatus.

9. Physical and Chemical Properties

APPEARANCE:	Clear, blue liquid
ODOR:	Slight aromatic hydrocarbon
ODOR THRESHOLD:	Not available.
PHYSICAL STATE:	Liquid solution
pH:	7-9 (approximate range)
FREEZING POINT at 1 atm:	32°F (0°C) to 31.1°F (-0.5°C)
BOILING POINT at 1 atm:	212°F (100°C)
FLASH POINT (test method):	Not applicable.
EVAPORATION RATE (Butyl Acetate = 1):	Low
FLAMMABILITY:	Nonflammable
FLAMMABLE LIMITS IN AIR , % by volume:	LOWER: Not applicable. UPPER: Not applicable.
VAPOR PRESSURE at 68°F (20°C):	0.3392 psig (17.54 mm Hg)
VAPOR DENSITY at 70°F (21.1°C) and 1 atm:	0.2612 lb/ft ³ (4.183 kg/m ³)
SPECIFIC GRAVITY (H ₂ O = 1) at 68°F (20°C):	1.002 to 1.027
SPECIFIC GRAVITY (Air = 1) at 68°F (20°C) and 1 atm:	0.014
SOLUBILITY IN WATER at 68°F (20°C):	100%
PARTITION COEFFICIENT: n-octanol/water:	Not available.
AUTOIGNITION TEMPERATURE:	Not applicable.
DECOMPOSITION TEMPERATURE:	Not available.
PERCENT VOLATILES BY VOLUME:	0%
MOLECULAR WEIGHT:	Not applicable.
MOLECULAR FORMULA:	Mixture of H ₂ O, C ₂₃ H ₂₂ O ₅ S, NaOH, Na ₂ CO ₃ , KCl, and C ₇ H ₈

10. Stability and Reactivity

CHEMICAL STABILITY: Unstable Stable

CONDITIONS TO AVOID: Heat. These solutions are stable at normal temperatures and pressures.

INCOMPATIBLE MATERIALS: None known.

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition of sodium carbonate may produce very small quantities of carbon monoxide and/or carbon dioxide. These solutions are over 90 percent water.

POSSIBILITY OF HAZARDOUS REACTIONS: May Occur Will Not Occur
See Hazardous Decomposition Products.

11. Toxicological Information

ACUTE DOSE EFFECTS: None expected for solution.

STUDY RESULTS: None known.

12. Ecological Information

ECOTOXICITY: No known effects.

OTHER ADVERSE EFFECTS: These solutions do not contain any ozone-depleting chemicals.

13. Disposal Considerations

WASTE DISPOSAL METHOD: Dispose of this product in an environmentally acceptable manner in full compliance with federal, state, and local regulations. Do not pour down drains, into sewers, or otherwise release into the environment. Place into lab packs for pickup by a licensed hazardous waste disposal service or use other authorized means. See section 6 for disposal following spills.

14. Transport Information

DOT/IMO SHIPPING NAME: Not DOT-regulated.

HAZARD CLASS:	PACKING GROUP/Zone:	IDENTIFICATION NUMBER:	PRODUCT RQ:
None	None	None	None

SHIPPING LABEL(s): Not required.

PLACARD (when required): Not required.

MARINE POLLUTANTS: None of the components of this solution is listed as a marine pollutant by DOT.

15. Regulatory Information

The following selected regulatory requirements may apply to this product. Not all such requirements are identified. Users of this product are solely responsible for compliance with all applicable federal, state, and local regulations.

U.S. FEDERAL REGULATIONS:

EPA (ENVIRONMENTAL PROTECTION AGENCY)

CERCLA: COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT OF 1980 (40 CFR Parts 117 and 302):

Reportable Quantity (RQ): Sodium hydroxide component = 1,000 lb (454 kg)
Toluene component = 1,000 lb (454 kg)

SARA: SUPERFUND AMENDMENT AND REAUTHORIZATION ACT:

SECTIONS 302/304: Require emergency planning based on Threshold Planning Quantity (TPQ) and release reporting based on Reportable Quantities (RQ) of Extremely Hazardous Substances (EHS) (40 CFR Part 355):

TPQ: None

EHS RQ (40 CFR 355): None

SECTIONS 311/312: Require submission of MSDSs and reporting of chemical inventories with identification of EPA hazard categories. The hazard categories for this product are as follows:

IMMEDIATE: Yes

PRESSURE: No

DELAYED: No

REACTIVITY: No

FIRE: No

SECTION 313: Requires submission of annual reports of release of toxic chemicals that appear in 40 CFR Part 372.

The toluene component is subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and 40CFR Part 372.

40 CFR 68: RISK MANAGEMENT PROGRAM FOR CHEMICAL ACCIDENTAL RELEASE PREVENTION: Requires development and implementation of risk management programs at facilities that manufacture, use, store, or otherwise handle regulated substances in quantities that exceed specified thresholds.

None of the components of this solution are listed as a regulated substance.

TSCA: TOXIC SUBSTANCES CONTROL ACT: All of the components of this solution are listed on the TSCA inventory.

OSHA: OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION:

29 CFR 1910.119: PROCESS SAFETY MANAGEMENT OF HIGHLY HAZARDOUS CHEMICALS: Requires facilities to develop a process safety management program based on Threshold Quantities (TQ) of highly hazardous chemicals.

None of the components of this solution are listed in Appendix A as a highly hazardous chemical.

STATE REGULATIONS:

CALIFORNIA: The toluene component is listed by California under the SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986 (Proposition 65).

WARNING: Toluene is a chemical known to the State of California to cause developmental defects.

California Health and Safety Code §25249.5 et. seq.

PENNSYLVANIA: This solution is subject to the PENNSYLVANIA WORKER AND COMMUNITY RIGHT-TO-KNOW ACT (35 P.S. Sections 7301-7320).

16. Other Information

Read and understand all labels and instructions supplied with all containers of this product.

NOTE: *These solutions are used in equipment to determine the hydrocarbon impurities in gaseous oxygen. Users must be familiar with the operation of and hazards associated with the equipment used with this liquid.*

OTHER HAZARDOUS CONDITIONS OF HANDLING, STORAGE, AND USE: *Irritating liquid and vapor.* Store and use with adequate ventilation at all times. Use a backflow prevention device in any piping.

Mixtures. When you mix two or more chemicals, you can 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 evaluate the end product. Remember, gases and liquids have properties that can cause serious injury or death.

HAZARD RATING SYSTEMS:

NFPA RATINGS:

HEALTH = 0
FLAMMABILITY = 0
INSTABILITY = 0
SPECIAL = None

HMIS RATINGS:

HEALTH = 0
FLAMMABILITY = 0
PHYSICAL HAZARD = 0

Praxair asks users of this product to study this MSDS and become aware of product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this MSDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information.

The opinions expressed herein are those of qualified experts within Praxair, Inc. We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and the conditions of use of the product are not within the control of Praxair, Inc., it is the user's obligation to determine the conditions of safe use of the product.

Praxair MSDSs are furnished on sale or delivery by Praxair or the independent distributors and suppliers who package and sell our products. To obtain current MSDSs for these products, contact your Praxair sales representative or local distributor or supplier, or download from www.praxair.com. If you have questions regarding Praxair MSDSs, would like the form number and date of the latest MSDS, or would like the names of the Praxair suppliers in your area, phone or write the Praxair Call Center (**Phone:** 1-800-PRAXAIR; **Address:** Praxair Call Center, Praxair, Inc., PO Box 44, Tonawanda, NY 14151-0044).

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