

**Universal Indicator Solution**

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**1. PRODUCT AND COMPANY IDENTIFICATION**

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**Product Name:** Universal Indicator Solution

**Synonyms/Generic Names:** None

**SDS Number:** 781.00

**Product Use:** For Educational Use Only

**Manufacturer:** Columbus Chemical Industries, Inc.  
N4335 Temkin Rd.  
Columbus, WI. 53925

**For More Information Contact:** Ward's Science  
5100 West Henrietta Rd.  
PO Box 92912-9012  
Rochester, NY 14692  
(800) 962-2660 (Monday-Friday 7:30-7:00 Eastern Time)

**In Case of Emergency Call:** CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

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**2. HAZARDS IDENTIFICATION**

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**OSHA Hazards:** Flammable liquid, Target Organ Effect, Irritant, Carcinogen

**Target Organs:** Nerves, Liver, Heart

**Signal Words:** Danger

**Pictograms**



**GHS Classification:**

Flammable liquids	Category 2
Skin irritation	Category 2
Eye irritation	Category 2B
Specific target organ toxicity-single exposure	Category 3

**GHS Label Elements, including precautionary statements:**

**Hazard Statements:**

H225	Highly flammable liquid and vapor
H315+H320	Causes skin and eye irritation
H335	May cause respiratory irritation

**Precautionary Statements:**

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**Potential Health Effects**

<b>Eyes</b>	Causes eye irritation
<b>Inhalation</b>	May be harmful if inhaled. Causes respiratory tract irritation.
<b>Skin</b>	May be harmful if absorbed through skin. Causes skin irritation.
<b>Ingestion</b>	May be harmful if swallowed

**NFPA Ratings**

<b>Health</b>	2
<b>Flammability</b>	3
<b>Reactivity</b>	0
<b>Specific hazard</b>	Not Available

**HMIS Ratings**

<b>Health</b>	2
<b>Fire</b>	3
<b>Reactivity</b>	0
<b>Personal</b>	H

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Reagent Alcohol, 95%	47	N/A	N/A	Mixture	N/A
Water	53	7732-18-5	231-791-2	H <sub>2</sub> O	18.00 g/mol
Phenolphthalein	<1	77-09-8	201-004-7	C <sub>20</sub> H <sub>14</sub> O <sub>4</sub>	318.32 g/mol
Methyl Red	<1	845-10-3	212-682-9	C <sub>15</sub> H <sub>14</sub> O <sub>2</sub> N <sub>3</sub> Na	291.28 g/mol
Bromothymol Blue	<1	34722-90-2	N/A	C <sub>27</sub> H <sub>27</sub> Br <sub>2</sub> NaO <sub>5</sub> S	646.36 g/mol
Sodium Hydroxide, 1.00N	<1	1310-73-2	215-185-5	NaOH	40.00 g/mol

**4. FIRST-AID MEASURES**

<b>Eyes</b>	Rinse with plenty of water for at least 15 minutes and seek medical attention.
<b>Inhalation</b>	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
<b>Skin</b>	Flush with plenty of water for at least 15 minutes and wash using soap. Get medical attention.
<b>Ingestion</b>	<b>Do Not Induce Vomiting!</b> Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention.

**5. FIRE-FIGHTING MEASURES**

<b>Suitable (and unsuitable) extinguishing media</b>	Flammable liquid. Use alcohol foam, carbon dioxide, or water spray when fighting fires involving this material. Cool containers with water.
<b>Special protective equipment and precautions for firefighters</b>	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots. Material can react violently with water (spattering and misting).
<b>Specific hazards arising from the chemical</b>	Emits toxic fumes (carbon oxides) under fire conditions. (See also Stability and Reactivity section). Vapors can travel to a source of ignition and flash back. Containers may explode in a fire.

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## 6. ACCIDENTAL RELEASE MEASURES

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<b>Personal precautions, protective equipment and emergency procedures</b>	See section 8 for recommendations on the use of personal protective equipment.
<b>Environmental precautions</b>	Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.
<b>Methods and materials for containment and cleaning up</b>	Neutralize spill. Absorb neutralized spill with vermiculite or other inert absorbent material, then place in a suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

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## 7. HANDLING AND STORAGE

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### Precautions for safe handling

Use with adequate ventilation and grounding. Wash thoroughly after using. Keep container closed when not in use.

### Conditions for safe storage, including any incompatibilities

Store in tightly closed, original containers in a cool, dry, well ventilated area. Store between 55-100°F for product stability. Do not store with strong oxidizing agents, strong acids, peroxides, aldehydes, halogens, ammonia, acid anhydrides or alkali metals.

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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**Occupational exposure controls:** Ventilation and appropriate grounding of containers.

Component	Exposure Limits	Basis	Entity
Ethyl Alcohol	1000 ppm 1900 mg/m <sup>3</sup>	REL	NIOSH
	1000 ppm 1900 mg/m <sup>3</sup>	PEL	OSHA
	1000 ppm 1880 mg/m <sup>3</sup>	STEL	ACGIH

TWA: Time Weighted Average over 8 hours of work.

TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit during x minutes.

IDLH: Immediately Dangerous to Life or Health

WEEL: Workplace Environmental Exposure Levels

CEIL: Ceiling

<b>Eyes</b>	Wear chemical safety glasses or goggles, and face shield.
<b>Inhalation</b>	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
<b>Skin</b>	Wear nitrile or rubber gloves, apron or lab coat.
<b>Other</b>	Not Available

### Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	Dark green, translucent liquid.
Odor	Mild alcohol.
Odor threshold	Not Available
pH	Not Available
Melting point/freezing point	Not Available
Initial boiling point and boiling range	Not Available
Flash point	Not Available
Evaporation rate	Not Available
Flammability (solid, gas)	Flammable liquid
Upper/lower flammability or explosive limit	3.3-19%
Vapor pressure	Not Available
Vapor density	0.9011 (water = 1)
Relative density	Not Available
Solubility (ies)	Not Available
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	Not Available
Decomposition temperature	Not Available

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Stable
<b>Possibility of Hazardous Reactions</b>	Will not occur.
<b>Conditions to Avoid</b>	Keep away from heat, flame and sparks.
<b>Incompatible Materials</b>	Alkali metals, ammonia, oxidizing agents, peroxides.
<b>Hazardous Decomposition Products</b>	Carbon oxides.

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

<b>Skin</b>	Not Available
<b>Eyes</b>	Not Available
<b>Respiratory</b>	Not Available
<b>Ingestion</b>	Not Available

### Carcinogenicity

<b>IARC</b>	No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
<b>ACGIH</b>	A3: Confirmed animal carcinogen with unknown relevance to humans.
<b>NTP</b>	No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
<b>OSHA</b>	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

### Signs & Symptoms of Exposure

<b>Skin</b>	Irritation
<b>Eyes</b>	Irritation
<b>Respiratory</b>	Irritation
<b>Ingestion</b>	Irritation

<b>Chronic Toxicity</b>	Not Available
<b>Teratogenicity</b>	Not Available
<b>Mutagenicity</b>	Not Available
<b>Embryotoxicity</b>	Not Available
<b>Specific Target Organ Toxicity</b>	Not Available

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## 12. ECOLOGICAL INFORMATION

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### Ecotoxicity

<b>Aquatic Vertebrate</b>	Not Available
<b>Aquatic Invertebrate</b>	Not Available
<b>Terrestrial</b>	Not Available

<b>Persistence and Degradability</b>	Not Available
<b>Bioaccumulative Potential</b>	Will not accumulate
<b>Mobility in Soil</b>	Not Available
<b>PBT and vPvB Assessment</b>	Not Available
<b>Other Adverse Effects</b>	Not Available

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## 13. DISPOSAL CONSIDERATIONS

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<b>Waste Residues</b>	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste products or residues.
<b>Product Containers</b>	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

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## 14. TRANSPORTATION INFORMATION

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US DOT	UN1993, Flammable liquids, n.o.s. (ethanol), 3, pg II
TDG	UN1993, FLAMMABLE LIQUIDS, N.O.S. (ETHANOL), 3, PG II
IMDG	UN1993, FLAMMABLE LIQUIDS, N.O.S. (ETHANOL), 3, PG II
Marine Pollutant	No
IATA/ICAO	UN1993, Flammable liquids, n.o.s. (ethanol), 3, pg II

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## 15. REGULATORY INFORMATION

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TSCA Inventory Status	All ingredients are listed on the TSCA inventory.
DSCL (EEC)	All ingredients are listed on the DSCL inventory.
California Proposition 65	Not Listed
SARA 302	Not Listed
SARA 304	Not Listed
SARA 311	Reagent Alcohol
SARA 312	Reagent Alcohol
SARA 313	Not Listed
WHMIS Canada	Class B-2: Flammable liquid with a flash point lower than 37.8°C (100°F). Class D-2A: Material causing other toxic effects (VERY TOXIC).

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## 16. OTHER INFORMATION

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Revision	Date
Revision 1	01/04/2013

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