

Section 1 Identification

Page E1 of E2

INNOVATING SCIENCE® by Aldon
221 Rochester Street
Avon, NY 14414-9409
(585) 226-6177

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
For laboratory and industrial use only.
Not for drug, food or household use.

Product	BLUE INDICATOR
----------------	----------------

Synonyms	None available
-----------------	----------------

Section 2 Hazards identification

Signal word: DANGER**Pictograms:** GHS02 / GHS06 / GHS08**Target organs:** Eyes, Central nervous system, Liver, Kidneys.**GHS Classification:**

Flammable liquid (Category 2)

Acute toxicity, oral (Category 3)

Acute toxicity, dermal (Category 3)

Acute toxicity, inhalation (Category 3)

Eye irritation (Category 2B)

STOT-SE (Category 2)

STOT-SE (Category 3)

GHS Label information: Hazard statement:

H225: Highly flammable liquid and vapour.

H301: Toxic if swallowed.

H311: Toxic in contact with skin.

H319: Causes serious eye irritation.

H331: Toxic if inhaled.

H336: May cause drowsiness or dizziness.

H371: May cause damage to organs.

Precautionary statement:

P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P233+P235: Keep container tightly closed. Keep cool.

P240: Ground/bond container and receiving equipment.

P241: Use explosion-proof electrical/ventilating/lighting equipment.

P242: Use only non-sparking tools.

P243: Take precautionary measures against static discharge.

P260: Do not breathe mist/vapours/spray.

P264: Wash hands thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P271: Use only outdoors or in a well-ventilated area.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P308+P311: IF exposed or concerned: Call a POISON CENTER or doctor.

P337+P313: If eye irritation persists: Get medical attention.

P361+P364: Take off immediately all contaminated clothing and wash it before reuse.

P370+P378: In case of fire: Use dry chemical, alcohol foam, carbon dioxide or water spray to extinguish.

P403+P405: Store in a well-ventilated place. Store locked up.

P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known

Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3 Composition / information on ingredients

Chemical Name	CAS #	%	EINECS
Ethyl alcohol	64-17-5	80.20 - 80.96%	200-578-6
Isopropyl alcohol	67-63-0	8.49%	200-661-7
Water	7732-18-5	4.96%	231-791-2
Methanol	67-56-1	3.77 - 4.05%	200-659-6
Thymolphthalein	125-20-2	0.67%	204-729-7
Methyl isobutyl ketone	108-10-1	0.87 - 0.94%	203-550-1

Section 4 First aid measures

INGESTION: TOXIC IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: TOXIC IF INHALED. CAUSES RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES SERIOUS EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: TOXIC IN CONTACT WITH SKIN. CAUSES SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical, dry sand, alcohol foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Vapors formed from this product are heavier than air and may travel along the ground to a distant source of ignition and flash back instantly. Flame may not be visible in daylight.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Remove all sources of ignition. Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from ignition sources.

Section 8 Exposure controls / personal protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Ethanol	STEL: 1000 ppm / 1880 mg/m ³ (A3)	TWA: 1000 ppm / 1900 mg/m ³	TWA: 1000 ppm / 1900 mg/m ³

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical and chemical properties

Appearance: Clear, colorless liquid.	Evaporation rate (Butyl acetate = 1): Ca 2*	Partition coefficient: (n-octanol / water): Low Pow: -.32*
Odor: Mild characteristic odor.	Flammability (solid/gas): Data not available.	Auto-ignition temperature: 400°C (752°F)*
Odor threshold: Data not available.	Explosion limits: Lower / Upper: 4.0%(V) / 20.0%(V)*	Decomposition temperature: Data not available.
pH: Data not available.	Vapor pressure (mm Hg): Ca 50 @ 20°C*	Viscosity: Data not available.
Melting / Freezing point: -114°C (-173°F)*	Vapor density (Air = 1): Ca 1.5*	Molecular formula: Mixture
Boiling point: 74-80°C (165.2-176°F)*	Relative density (Specific gravity): 0.7919-0.7955°C @ 60/60°F*	Molecular weight: Mixture
Flash point: 5°C (41°F)*	Solubility(ies): Soluble in water.	*[Ethanol]

Section 10 Stability and reactivity

Chemical stability: Stable **Hazardous polymerization:** Will not occur.

Conditions to avoid: Excessive temperatures, heat, sparks, open flame and other sources of ignition.

Incompatible materials: Strong oxidizers, inorganic acids and halogens.

Hazardous decomposition products: Oxides of carbon.

Section 11 Toxicological information

Acute toxicity: Oral-rat LD50: 7060 mg/kg ; Inhalation-rat LC50: 124.7 mg/l/4hours [Ethanol] / Oral-rat LD50: 450-850 mg/kg [p-Nitrophenol]

Skin corrosion/irritation: Skin-rabbit - Slight irritant.

Serious eye damage/irritation: Eyes-rabbit - Severe irritant.

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC classified: Group 3: Not classifiable as to its carcinogenicity to humans. [Isopropanol]

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

CA Prop 65: ⚠️ **WARNING!** : This product can expose you to chemicals including Methanol and Methyl isobutyl ketone, which are known to the State of California to cause cancer and birth defects or other reproductive harm.

eproductive toxicity: Data not available

STOT-single exposure: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: Inhalation may cause dizziness, drowsiness, nausea, vomiting, inability to concentrate and irritation of the throat.

Ingestion: Ingestion causes dizziness, drowsiness, decreased reaction, euphoria, nausea, vomiting, staggering gait and coma.

Skin: Contact with skin causes irritation defatting on prolonged contact.

Eyes: Contact with eyes may cause blindness.

Signs and symptoms of exposure: See Potential health effects above.

Additional information: RTECS #: KQ6300000 [Ethanol]

Section 12 Ecological information

Toxicity to fish: Oncorhynchus mykiss (fish, fresh water), LC50 = 11,200 mg/l/24 hours [Ethanol]

Toxicity to daphnia and other aquatic invertebrates: Daphnia magna (Crustacia), EC50 = 10,800 mg/l/24 hours [Ethanol, 99.8% pure]

Toxicity to algae: Chlorella pyrenoidosa (Algae), EC50 = 9,310 mg/l/growth rate [Ethanol, absolute]

Persistence and degradability: No data available **Bioaccumulative potential:** No data available

Mobility in soil: No data available **PBT and vPvB assessment:** No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport information

UN/NA number: UN1170 **Shipping name:** Ethanol solution

Hazard class: 3

Packing group: II

Reportable Quantity: 5,000 lbs (2270 kg)

Marine pollutant: No

Exceptions: Limited quantity equal to or less than 1 L

2020 ERG Guide # 127

Section 15 Regulatory information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Ethanol	Listed	Not listed	D001	Listed	Not listed	⚠️ WARNING -Cancer and Reproductive Harm - www.P65Warnings.ca.gov.
Methanol	Listed	5,000 lbs.	U154	Listed	Not listed	
Isopropanol	Listed	Not listed	Not listed	Listed	Not listed	

Section 16 Other information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

Section 1 Identification

Page E1 of E2

INNOVATING SCIENCE® by Aldon
 "Cutting edge science for the classroom"
 221 Rochester Street
 Avon, NY 14414-9409
 (585) 226-6177

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
 For laboratory and industrial use only.
 Not for drug, food or household use.

Product	GREEN INDICATOR
----------------	-----------------

Synonyms	None available
-----------------	----------------

Section 2 Hazards identification

Signal word: DANGER**Pictograms:** GHS02 / GHS06 / GHS08**Target organs:** Eyes, Central nervous system, Liver, Kidneys.**GHS Classification:**

Flammable liquid (Category 2)
 Acute toxicity, oral (Category 3)
 Acute toxicity, dermal (Category 3)
 Acute toxicity, inhalation (Category 3)
 Eye irritation (Category 2B)
 STOT-SE (Category 2)
 STOT-SE (Category 3)

GHS Label information: Hazard statement:

H225: Highly flammable liquid and vapour.
 H301: Toxic if swallowed.
 H311: Toxic in contact with skin.
 H319: Causes serious eye irritation.
 H331: Toxic if inhaled.
 H336: May cause drowsiness or dizziness.
 H371: May cause damage to organs.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known
 Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3 Composition / information on ingredients

Chemical Name	CAS #	%	EINECS
Ethyl alcohol	64-17-5	74.82 - 75.53%	200-578-6
Isopropyl alcohol	67-63-0	7.92%	200-661-7
p-Nitrophenol	100-02-7	6.67%	202-811-7
Water	7732-18-5	4.63%	231-791-2
Methanol	67-56-1	3.52 - 3.78%	200-659-6
Thymolphthalein	125-20-2	0.67%	204-729-7
Hydrochloric acid	7647-01-0	<1.00%	231-595-7
Methyl isobutyl ketone	108-10-1	0.78 - 0.88%	203-550-1

Section 4 First aid measures

INGESTION: TOXIC IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: TOXIC IF INHALED. CAUSES RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES SERIOUS EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: TOXIC IN CONTACT WITH SKIN. CAUSES SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical, dry sand, alcohol foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Vapors formed from this product are heavier than air and may travel along the ground to a distant source of ignition and flash back instantly. Flame may not be visible in daylight.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Remove all sources of ignition. Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from ignition sources.

Section 8 Exposure controls / personal protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Ethanol	STEL: 1000 ppm / 1880 mg/m ³ (A3)	TWA: 1000 ppm / 1900 mg/m ³	TWA: 1000 ppm / 1900 mg/m ³

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical and chemical properties

Appearance: Clear, colorless liquid. Odor: Mild characteristic odor. Odor threshold: Data not available. pH: Data not available. Melting / Freezing point: -114°C (-173°F)* Boiling point: 74-80°C (165.2-176°F)* Flash point: 5°C (41°F)*	Evaporation rate (Butyl acetate = 1): Ca 2* Flammability (solid/gas): Data not available. Explosion limits: Lower / Upper: 4.0%(V) / 20.0%(V)* Vapor pressure (mm Hg): Ca 50 @ 20°C* Vapor density (Air = 1): Ca 1.5* Relative density (Specific gravity): 0.7919-0.7955°C @ 60/60°F* Solubility(ies): Soluble in water.	Partition coefficient: (n-octanol / water): Low Pow: -.32* Auto-ignition temperature: 400°C (752°F)* Decomposition temperature: Data not available. Viscosity: Data not available. Molecular formula: Mixture Molecular weight: Mixture *[Ethanol]
---	--	--

Section 10 Stability and reactivity

Chemical stability: Stable **Hazardous polymerization:** Will not occur.

Conditions to avoid: Excessive temperatures, heat, sparks, open flame and other sources of ignition.

Incompatible materials: Strong oxidizers, inorganic acids and halogens.

Hazardous decomposition products: Oxides of carbon.

Section 11 Toxicological information

Acute toxicity: Oral-rat LD50: 7060 mg/kg ; Inhalation-rat LC50: 124.7 mg/l/4hours [Ethanol] / Oral-rat LD50: 450-850 mg/kg [p-Nitrophenol]

Skin corrosion/irritation: Skin-rabbit - Slight irritant.

Serious eye damage/irritation: Eyes-rabbit - Severe irritant.

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC classified: Group 3: Not classifiable as to its carcinogenicity to humans. [Isopropanol]

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

CA Prop 65: ⚠️ **WARNING!** : This product can expose you to chemicals including Methanol and Methyl isobutyl ketone, which are known to the State of California to cause cancer and birth defects or other reproductive harm.

Reproductive toxicity: Data not available

STOT-single exposure: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: Inhalation may cause dizziness, drowsiness, nausea, vomiting, inability to concentrate and irritation of the throat.

Ingestion: Ingestion causes dizziness, drowsiness, decreased reaction, euphoria, nausea, vomiting, staggering gait and coma.

Skin: Contact with skin causes irritation defatting on prolonged contact.

Eyes: Contact with eyes may cause blindness.

Signs and symptoms of exposure: See Potential health effects above.

Additional information: RTECS #: KQ6300000 [Ethanol]

Section 12 Ecological information

Toxicity to fish: Oncorhynchus mykiss (fish, fresh water), LC50 = 11,200 mg/l/24 hours [Ethanol]

Toxicity to daphnia and other aquatic invertebrates: Daphnia magna (Crustacia), EC50 = 10,800 mg/l/24 hours [Ethanol, 99.8% pure]

Toxicity to algae: Chlorella pyrenoidosa (Algae), EC50 = 9,310 mg/l/growth rate [Ethanol, absolute]

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport information

UN/NA number: UN1170

Shipping name: Ethanol solution

Hazard class: 3

Packing group: II

Reportable Quantity: 5,000 lbs (2270 kg)

Marine pollutant: No

Exceptions: Limited quantity equal to or less than 1 L

2020 ERG Guide # 127

Section 15 Regulatory information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Ethanol	Listed	Not listed	D001	Listed	Not listed	⚠️ WARNING -Cancer and Reproductive Harm - www.P65Warnings.ca.gov.
Methanol	Listed	5,000 lbs.	U154	Listed	Not listed	
Isopropanol	Listed	Not listed	Not listed	Listed	Not listed	
p-Nitrophenol	Listed	100 lbs. (45.4 kg)	U170	Listed	Not listed	

Section 16 Other information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

Section 1 Identification

Page E1 of E2

INNOVATING SCIENCE® by Aldon
221 Rochester Street
Avon, NY 14414-9409
(585) 226-6177

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
For laboratory and industrial use only.
Not for drug, food or household use.

Product	HYDROCHLORIC ACID, 1 MOLAR (1 NORMAL) SOLUTION
Synonyms	Muriatic Acid, Water Solution / Hydrogen Chloride, Water Solution

Section 2 Hazards identification

Signal word: WARNING

Pictograms: GHS05

Target organs: Respiratory system, skin, eyes, lungs.

**GHS Classification:**

Corrosive to metals (Category 1)

Skin irritant (Category 3)

Eye irritant (Category 2B)

GHS Label information:**Hazard statement(s):**

H290: May be corrosive to metals.

H316: Causes mild skin irritation.

H320: Causes eye irritation.

Precautionary statement(s):

P234: Keep only in original container.

P264: Wash hands thoroughly after handling.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for 15 minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P332+P313: If skin irritation occurs: Get medical attention.

P337+P313: If eye irritation persists: Get medical attention.

P390: Absorb spillage to prevent material damage.

P406: Store in corrosive resistant container with a resistant inner liner.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known

Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3 Composition / information on ingredients

Chemical Name	CAS #	%	EINECS
Water	7732-18-5	96.86%	231-791-2
Hydrochloric acid	7647-01-0	3.14%	231-595-7

Section 4 First aid measures

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY CAUSE IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical, dry sand, alcohol foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Contact with metals produce hydrogen, which is flammable and may produce explosive mixtures with air.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, well-ventilated area away from incompatible substances.

Section 8 Exposure controls / personal protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Hydrogen chloride	STEL: C 2 ppm / C 2.98 mg/m ³	STEL: C 5 ppm / C 7 mg/m ³	STEL: C 5 ppm / C 7 mg/m ³

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical and chemical properties

Appearance: Clear, colorless liquid. Odor: No odor. Odor threshold: No data available pH: No data available Melting / Freezing point: ~ 0°C (~ 32°F) [water] Boiling point: ~ 100°C (212°F) [water] Flash point: Not flammable. Evaporation rate (= 1): < 1	Flammability (solid/gas): No data available Explosion limits: Upper/Lower: No data available Vapor pressure (mm Hg): 14 [water] Vapor density (Air = 1): 0.7 [water] Relative density (Specific gravity): 1.0 [water] Solubility(ies): Complete. Partition coefficient: (n-octanol / water): No data available Auto-ignition temperature: No data available	Decomposition temperature: No data available Viscosity: No data available Molecular formula: Mixture. Molecular weight: Mixture.
---	--	---

Section 10 Stability and reactivity

Chemical stability: Stable **Hazardous polymerization:** Will not occur.

Conditions to avoid: Containers may burst when heated. Avoid contact with water.

Incompatible materials: Metals, bases, active metals, alkali metals, oxidizing agents, hydroxides, amines, carbonates, cyanides, sulfides, sulfites, formaldehyde.

Hazardous decomposition products: Hydrogen chloride gas.

Section 11 Toxicological information

Acute toxicity: Data not available

Skin corrosion/irritation: Data not available at this dilution.

Serious eye damage/irritation: Data not available at this dilution.

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by NTP.

IARC: Group 3: Not classifiable as to its carcinogenicity to humans.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available at this dilution.

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects: To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated. Specific data is not available. Exercise appropriate procedures to minimize potential hazards.

Inhalation: May be harmful if inhaled. Material may cause irritation to the tissue of the mucous membranes and upper respiratory tract.

Ingestion: May be harmful if swallowed.

Skin: May cause irritation and/or burns.

Eyes: May cause irritation and/or burns.

Signs and symptoms of exposure: Data not available at this dilution.

Additional information: RTECS #: MW4025000 [Hydrochloric acid]

Section 12 Ecological information

Toxicity to fish: LC50 - Gambusia affinis (Mosquito fish) - 282 mg/l - 96 h (Hydrochloric acid)

Toxicity to daphnia and other aquatic invertebrates: No data available

Toxicity to algae: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport information

UN/NA number: UN1789

Shipping name: Hydrochloric acid

Hazard class: 8

Packing group: III

Reportable Quantity: 5000 lbs (2270 kg)

Marine pollutant: No

Exceptions: Limited quantity equal to or less than 5 L

2020 ERG Guide # 157

Section 15 Regulatory information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Hydrochloric acid	Listed	5000 lbs (2270 kg)	D002	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Section 16 Other information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

Section 1 Identification

Page E1 of E2

INNOVATING SCIENCE® by Aldon
 221 Rochester Street
 Avon, NY 14414-9409
 (585) 226-6177

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
 For laboratory and industrial use only.
 Not for drug, food or household use.

Product	ORANGE INDICATOR
----------------	------------------

Synonyms	None available
-----------------	----------------

Section 2 Hazards identification

Signal word: DANGER

Pictograms: GHS02 / GHS06 / GHS08

Target organs: Eyes, Central nervous system, Liver, Kidneys.

**GHS Classification:**

Flammable liquid (Category 2)

Acute toxicity, oral (Category 3)

Acute toxicity, dermal (Category 3)

Acute toxicity, inhalation (Category 3)

Eye irritation (Category 2B)

STOT-SE (Category 2)

STOT-SE (Category 3)

GHS Label information: Hazard statement:

H225: Highly flammable liquid and vapour.

H301: Toxic if swallowed.

H311: Toxic in contact with skin.

H319: Causes serious eye irritation.

H331: Toxic if inhaled.

H336: May cause drowsiness or dizziness.

H371: May cause damage to organs.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known

Physical hazards not otherwise classified (PHNOC) - Not Known

Precautionary statement:

P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P233+P235: Keep container tightly closed. Keep cool.

P240: Ground/bond container and receiving equipment.

P241: Use explosion-proof electrical/ventilating/lighting equipment.

P242: Use only non-sparking tools.

P243: Take precautionary measures against static discharge.

P260: Do not breathe mist/vapours/spray.

P264: Wash hands thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P271: Use only outdoors or in a well-ventilated area.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P308+P311: IF exposed or concerned: Call a POISON CENTER or doctor.

P337+P313: If eye irritation persists: Get medical attention.

P361+P364: Take off immediately all contaminated clothing and wash it before reuse.

P370+P378: In case of fire: Use dry chemical, alcohol foam, carbon dioxide or water spray to extinguish.

P403+P405: Store in a well-ventilated place. Store locked up.

P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Section 3 Composition / information on ingredients

Chemical Name	CAS #	%	EINECS
Ethyl alcohol	64-17-5	74.96 - 75.66%	200-578-6
Isopropyl alcohol	67-63-0	7.93%	200-661-7
p-Nitrophenol	100-02-7	6.67%	202-811-7
Water	7732-18-5	4.64%	231-791-2
Methanol	67-56-1	3.52 - 3.78%	200-659-6
Hydrochloric acid	7647-01-0	<1.00%	231-595-7
Methyl isobutyl ketone	108-10-1	0.81 - 0.88%	203-550-1
Phenolphthalein	77-09-8	0.50%	201-004-7

Section 4 First aid measures

INGESTION: TOXIC IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: TOXIC IF INHALED. CAUSES RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES SERIOUS EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: TOXIC IN CONTACT WITH SKIN. CAUSES SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical, dry sand, alcohol foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Vapors formed from this product are heavier than air and may travel along the ground to a distant source of ignition and flash back instantly. Flame may not be visible in daylight.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Remove all sources of ignition. Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from ignition sources.

Section 8 Exposure controls / personal protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Ethanol	STEL: 1000 ppm / 1880 mg/m ³ (A3)	TWA: 1000 ppm / 1900 mg/m ³	TWA: 1000 ppm / 1900 mg/m ³

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical and chemical properties

Appearance: Clear, colorless liquid. Odor: Mild characteristic odor. Odor threshold: Data not available. pH: Data not available. Melting / Freezing point: -114°C (-173°F)* Boiling point: 74-80°C (165.2-176°F)* Flash point: 5°C (41°F)*	Evaporation rate (Butyl acetate = 1): Ca 2* Flammability (solid/gas): Data not available. Explosion limits: Lower / Upper: 4.0%(V) / 20.0%(V)* Vapor pressure (mm Hg): Ca 50 @ 20°C* Vapor density (Air = 1): Ca 1.5* Relative density (Specific gravity): 0.7919-0.7955°C @ 60/60°F* Solubility(ies): Soluble in water.	Partition coefficient: (n-octanol / water): Low Pow: -.32* Auto-ignition temperature: 400°C (752°F)* Decomposition temperature: Data not available. Viscosity: Data not available. Molecular formula: Mixture Molecular weight: Mixture *[Ethanol]
---	--	--

Section 10 Stability and reactivity

Chemical stability: Stable **Hazardous polymerization:** Will not occur.

Conditions to avoid: Excessive temperatures, heat, sparks, open flame and other sources of ignition.

Incompatible materials: Strong oxidizers, inorganic acids and halogens.

Hazardous decomposition products: Oxides of carbon.

Section 11 Toxicological information

Acute toxicity: Oral-rat LD50: 7060 mg/kg ; Inhalation-rat LC50: 124.7 mg/l/4hours [Ethanol] / Oral-rat LD50: 450-850 mg/kg [p-Nitrophenol]

Skin corrosion/irritation: Skin-rabbit - Slight irritant.

Serious eye damage/irritation: Eyes-rabbit - Severe irritant.

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: This product contains a chemical reasonably anticipated to be a human carcinogen. [Phenolphthalein]

IARC classified: Group 3: Not classifiable as to its carcinogenicity to humans. [Isopropanol] Group 2B: Possibly carcinogenic to humans. [Phenolphthalein]

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

CA Prop 65: ⚠️ WARNING! : This product can expose you to chemicals including Phenolphthalein, Methanol, and Methyl isobutyl ketone, which are known to the State of California to cause cancer and birth defects or other reproductive harm.

Reproductive toxicity: Data not available

STOT-single exposure: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: Inhalation may cause dizziness, drowsiness, nausea, vomiting, inability to concentrate and irritation of the throat.

Ingestion: Ingestion causes dizziness, drowsiness, decreased reaction, euphoria, nausea, vomiting, staggering gait and coma.

Skin: Contact with skin causes irritation defatting on prolonged contact.

Eyes: Contact with eyes may cause blindness.

Signs and symptoms of exposure: See Potential health effects above.

Additional information: RTECS #: KQ6300000 [Ethanol]

Section 12 Ecological information

Toxicity to fish: Oncorhynchus mykiss (fish, fresh water), LC50 = 11,200 mg/l/24 hours [Ethanol]

Toxicity to daphnia and other aquatic invertebrates: Daphnia magna (Crustacia), EC50 = 10,800 mg/l/24 hours [Ethanol, 99.8% pure]

Toxicity to algae: Chlorella pyrenoidosa (Algae), EC50 = 9,310 mg/l/growth rate [Ethanol, absolute]

Persistence and degradability: No data available **Bioaccumulative potential:** No data available

Mobility in soil: No data available **PBT and vPvB assessment:** No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport information

UN/NA number: UN1170 **Shipping name:** Ethanol solution

Hazard class: 3

Packing group: II

Reportable Quantity: 5,000 lbs (2270 kg)

Marine pollutant: No

Exceptions: Limited quantity equal to or less than 1 L

2020 ERG Guide # 127

Section 15 Regulatory information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Ethanol	Listed	Not listed	D001	Listed	Not listed	⚠️ WARNING -Cancer and Reproductive Harm - www.P65Warnings.ca.gov.
Methanol	Listed	5,000 lbs.	U154	Listed	Not listed	
Isopropanol	Listed	Not listed	Not listed	Listed	Not listed	
p-Nitrophenol	Listed	100 lbs. (45.4 kg)	U170	Listed	Not listed	

Section 16 Other information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

Section 1 Identification

Page E1 of E2

INNOVATING SCIENCE® by Aldon

221 Rochester Street
Avon, NY 14414-9409
(585) 226-6177

"Cutting edge science for the classroom"

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
For laboratory and industrial use only.
Not for drug, food or household use.

Product	RED INDICATOR
Synonyms	None available

Section 2 Hazards identification

Signal word: DANGER**Pictograms:** GHS02 / GHS06 / GHS08**Target organs:** Eyes, Central nervous system, Liver, Kidneys.**GHS Classification:**

Flammable liquid (Category 2)

Acute toxicity, oral (Category 3)

Acute toxicity, dermal (Category 3)

Acute toxicity, inhalation (Category 3)

Eye irritation (Category 2B)

STOT-SE (Category 2)

STOT-SE (Category 3)

GHS Label information: Hazard statement:

H225: Highly flammable liquid and vapour.

H301: Toxic if swallowed.

H311: Toxic in contact with skin.

H319: Causes serious eye irritation.

H331: Toxic if inhaled.

H336: May cause drowsiness or dizziness.

H371: May cause damage to organs.

Precautionary statement:

P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P233+P235: Keep container tightly closed. Keep cool.

P240: Ground/bond container and receiving equipment.

P241: Use explosion-proof electrical/ventilating/lighting equipment.

P242: Use only non-sparking tools.

P243: Take precautionary measures against static discharge.

P260: Do not breathe mist/vapours/spray.

P264: Wash hands thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P271: Use only outdoors or in a well-ventilated area.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P308+P311: IF exposed or concerned: Call a POISON CENTER or doctor.

P337+P313: If eye irritation persists: Get medical attention.

P361+P364: Take off immediately all contaminated clothing and wash it before reuse.

P370+P378: In case of fire: Use dry chemical, alcohol foam, carbon dioxide or water spray to extinguish.

P403+P405: Store in a well-ventilated place. Store locked up.

P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known

Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3 Composition / information on ingredients

Chemical Name	CAS #	%	EINECS
Ethyl alcohol	64-17-5	74.69 - 75.39%	200-578-6
Isopropyl alcohol	67-63-0	7.91%	200-661-7
p-Nitrophenol	100-02-7	5.00%	202-811-7
Water	7732-18-5	4.63%	231-791-2
Methanol	67-56-1	3.52 - 3.77%	200-659-6
Phenolphthalein	77-09-8	2.50%	201-004-7
Hydrochloric acid	7647-01-0	<1.00%	231-595-7
Methyl isobutyl ketone	108-10-1	0.79 - 0.88%	203-550-1

Section 4 First aid measures

INGESTION: HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: TOXIC IF INHALED. CAUSES RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES SERIOUS EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: CAUSES SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical, dry sand, alcohol foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Vapors formed from this product are heavier than air and may travel along the ground to a distant source of ignition and flash back instantly. Flame may not be visible in daylight.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Remove all sources of ignition. Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from ignition sources.

Section 8 Exposure controls / personal protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Ethanol	STEL: 1000 ppm / 1880 mg/m ³ (A3)	TWA: 1000 ppm / 1900 mg/m ³	TWA: 1000 ppm / 1900 mg/m ³

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical and chemical properties

Appearance: Clear, colorless liquid.	Evaporation rate (Butyl acetate = 1): Ca 2*	Partition coefficient: (n-octanol / water): Low Pow: -.32*
Odor: Mild characteristic odor.	Flammability (solid/gas): Data not available.	Auto-ignition temperature: 400°C (752°F)*
Odor threshold: Data not available.	Explosion limits: Lower / Upper: 4.0%(V) / 20.0%(V)*	Decomposition temperature: Data not available.
pH: Data not available.	Vapor pressure (mm Hg): Ca 50 @ 20°C*	Viscosity: Data not available.
Melting / Freezing point: -114°C (-173°F)*	Vapor density (Air = 1): Ca 1.5*	Molecular formula: Mixture
Boiling point: 74-80°C (165.2-176°F)*	Relative density (Specific gravity): 0.7919-0.7955°C @ 60/60°F*	Molecular weight: Mixture
Flash point: 5°C (41°F)*	Solubility(ies): Soluble in water.	*[Ethanol]

Section 10 Stability and reactivity

Chemical stability: Stable **Hazardous polymerization:** Will not occur.

Conditions to avoid: Excessive temperatures, heat, sparks, open flame and other sources of ignition.

Incompatible materials: Strong oxidizers, inorganic acids and halogens.

Hazardous decomposition products: Oxides of carbon.

Section 11 Toxicological information

Acute toxicity: Oral-rat LD50: 7060 mg/kg ; Inhalation-rat LC50: 124.7 mg/l/4hours [Ethanol] / Oral-rat LD50: 450-850 mg/kg [p-Nitrophenol]

Skin corrosion/irritation: Skin-rabbit - Slight irritant.

Serious eye damage/irritation: Eyes-rabbit - Severe irritant.

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: This product contains a chemical reasonably anticipated to be a human carcinogen. [Phenolphthalein]

IARC classified: Group 3: Not classifiable as to its carcinogenicity to humans. [Isopropanol] Group 2B: Possibly carcinogenic to humans. [Phenolphthalein]

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

CA Prop 65: ⚠️ WARNING! : This product can expose you to chemicals including Methanol and Methyl isobutyl ketone, which are known to the State of California to cause cancer and birth defects or other reproductive harm.

Reproductive toxicity: Data not available

STOT-single exposure: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: Inhalation may cause dizziness, drowsiness, nausea, vomiting, inability to concentrate and irritation of the throat.

Ingestion: Ingestion causes dizziness, drowsiness, decreased reaction, euphoria, nausea, vomiting, staggering gait and coma.

Skin: Contact with skin causes irritation defatting on prolonged contact.

Eyes: Contact with eyes may cause blindness.

Signs and symptoms of exposure: Risk of cancer depends on level and duration of exposure.

Additional information: RTECS #: KQ6300000 [Ethanol]

Section 12 Ecological information

Toxicity to fish: Oncorhynchus mykiss (fish, fresh water), LC50 = 11,200 mg/l/24 hours [Ethanol]

Toxicity to daphnia and other aquatic invertebrates: Daphnia magna (Crustacia), EC50 = 10,800 mg/l/24 hours [Ethanol, 99.8% pure]

Toxicity to algae: Chlorella pyrenoidosa (Algae), EC50 = 9,310 mg/l/growth rate [Ethanol, absolute]

Persistence and degradability: No data available **Bioaccumulative potential:** No data available

Mobility in soil: No data available **PBT and vPvB assessment:** No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport information

UN/NA number: UN1170 **Shipping name:** Ethanol solution

Hazard class: 3

Packing group: II

Reportable Quantity: 5,000 lbs (2270 kg)

Marine pollutant: No

Exceptions: Limited quantity equal to or less than 1 L

2020 ERG Guide # 127

Section 15 Regulatory information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Ethanol	Listed	Not listed	D001	Listed	Not listed	⚠️ WARNING -Cancer and Reproductive Harm - www.P65Warnings.ca.gov.
Methanol	Listed	5,000 lbs.	U154	Listed	Not listed	
Isopropanol	Listed	Not listed	Not listed	Listed	Not listed	
p-Nitrophenol	Listed	100 lbs. (45.4 kg)	U170	Listed	Not listed	

Section 16 Other information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

Section 1 Identification

Page E1 of E2

INNOVATING SCIENCE® by Aldon
 221 Rochester Street
 Avon, NY 14414-9409
 (585) 226-6177

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
 For laboratory and industrial use only.
 Not for drug, food or household use.

Product	SODIUM HYDROXIDE, 6 MOLAR (6N) SOLUTION
----------------	--

Synonyms	Sodium Hydroxide, Water Solution (6M)
-----------------	---------------------------------------

Section 2 Hazards identification

Signal word: DANGER

Pictograms: GHS05

Target organs: Respiratory tract, gastrointestinal tract, eyes, skin.



GHS Classification:

Skin corrosion (Category 1A)

Serious Eye Damage/ Eye Irritation (Category 1)

GHS Label information: Hazard statement:

H314: Causes severe skin burns and eye damage.

Precautionary statement:

P260: Do not breathe mist/vapours/spray.

P264: Wash hands thoroughly after handling.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P310: Immediately call a POISON CENTER or doctor.

P363: Wash contaminated clothing before reuse.

P405: Store locked up.

P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known

Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3 Composition / information on ingredients

Chemical Name	CAS #	%	EINECS
Water	7732-18-5	76%	231-791-2
Sodium hydroxide	1310-73-2	24%	215-185-5

Section 4 First aid measures

INGESTION: MAY BE FATAL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES SEVERE DAMAGE. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: CAUSES SEVERE BURNS. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Dry chemical, water spray, alcohol foam. Can react with carbon dioxide to form sodium carbonate.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: In fire conditions, water may evaporate from this solution which may cause hazardous decomposition products to be formed as dust or fume. Contact with metals can generate hydrogen gas.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Section 1 Identification

Page E1 of E2

INNOVATING SCIENCE® by Aldon
 221 Rochester Street
 Avon, NY 14414-9409
 (585) 226-6177

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
 For laboratory and industrial use only.
 Not for drug, food or household use.

Product SODIUM HYDROXIDE, 1 MOLAR (1 NORMAL) SOLUTION
Synonyms Sodium Hydroxide, Water Solution, Sodium Hydroxide Solution

Section 2 Hazards identification

Signal word: DANGER**Pictograms:** GHS05**Target organs:** Respiratory tract, gastrointestinal tract, eyes, skin.**GHS Classification:**

Skin, Corr. (Category 1B)

Serious Eye Damage/ Eye Irritation (Category 1)

GHS Label information: Hazard statement:

H314: Causes severe skin burns and eye damage.

Precautionary statement:

P260: Do not breathe mist/vapours/spray.

P264: Wash hands thoroughly after handling.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P363: Wash contaminated clothing before reuse.

P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P310: Immediately call a POISON CENTER or doctor.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P405: Store locked up.

P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known

Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3 Composition / information on ingredients

Chemical Name	CAS #	%	EINECS
Water	7732-18-5	96%	231-791-2
Sodium hydroxide	1310-73-2	4%	215-185-5

Section 4 First aid measures

INGESTION: MAY BE FATAL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES SEVERE DAMAGE. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: CAUSES SEVERE BURNS. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Dry chemical, water spray, alcohol foam. Can react with carbon dioxide to form sodium carbonate.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: In fire conditions, water may evaporate from this solution which may cause hazardous decomposition products to be formed as dust or fume. Contact with metals can generate hydrogen gas.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Section 1 Identification

Page E1 of E2

INNOVATING SCIENCE® by Aldon
 "Cutting edge science for the classroom"
 221 Rochester Street
 Avon, NY 14414-9409
 (585) 226-6177

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
 For laboratory and industrial use only.
 Not for drug, food or household use.

Product	VIOLET INDICATOR
----------------	------------------

Synonyms	None available
-----------------	----------------

Section 2 Hazards identification

Signal word: DANGER**Pictograms:** GHS02 / GHS06 / GHS08**Target organs:** Eyes, Central nervous system, Liver, Kidneys.**GHS Classification:**

Flammable liquid (Category 2)

Acute toxicity, oral (Category 3)

Acute toxicity, dermal (Category 3)

Acute toxicity, inhalation (Category 3)

Eye irritation (Category 2B)

STOT-SE (Category 2)

STOT-SE (Category 3)

GHS Label information: Hazard statement:

H225: Highly flammable liquid and vapour.

H301: Toxic if swallowed.

H311: Toxic in contact with skin.

H319: Causes serious eye irritation.

H331: Toxic if inhaled.

H336: May cause drowsiness or dizziness.

H371: May cause damage to organs.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known

Physical hazards not otherwise classified (PHNOC) - Not Known

Precautionary statement:

P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P233+P235: Keep container tightly closed. Keep cool.

P240: Ground/bond container and receiving equipment.

P241: Use explosion-proof electrical/ventilating/lighting equipment.

P242: Use only non-sparking tools.

P243: Take precautionary measures against static discharge.

P260: Do not breathe mist/vapours/spray.

P264: Wash hands thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P271: Use only outdoors or in a well-ventilated area.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P308+P311: IF exposed or concerned: Call a POISON CENTER or doctor.

P337+P313: If eye irritation persists: Get medical attention.

P361+P364: Take off immediately all contaminated clothing and wash it before reuse.

P370+P378: In case of fire: Use dry chemical, alcohol foam, carbon dioxide or water spray to extinguish.

P403+P405: Store in a well-ventilated place. Store locked up.

P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Section 3 Composition / information on ingredients

Chemical Name	CAS #	%	EINECS
Ethyl alcohol	64-17-5	79.99 - 79.74%	200-578-6
Isopropyl alcohol	67-63-0	8.36%	200-661-7
Water	7732-18-5	4.89%	231-791-2
Methanol	67-56-1	3.71 - 3.99%	200-659-6
Phenolphthalein	77-09-8	1.50%	201-004-7
Methyl isobutyl ketone	108-10-1	0.86 - 0.92%	203-550-1
Thymolphthalein	125-20-2	0.67%	204-729-7

Section 4 First aid measures

INGESTION: HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: TOXIC IF INHALED. CAUSES RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES SERIOUS EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: CAUSES SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical, dry sand, alcohol foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Vapors formed from this product are heavier than air and may travel along the ground to a distant source of ignition and flash back instantly. Flame may not be visible in daylight.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Remove all sources of ignition. Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from ignition sources.

Section 8 Exposure controls / personal protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Ethanol	STEL: 1000 ppm / 1880 mg/m ³ (A3)	TWA: 1000 ppm / 1900 mg/m ³	TWA: 1000 ppm / 1900 mg/m ³

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical and chemical properties

Appearance: Clear, colorless liquid. Odor: Mild characteristic odor. Odor threshold: Data not available. pH: Data not available. Melting / Freezing point: -114°C (-173°F)* Boiling point: 74-80°C (165.2-176°F)* Flash point: 5°C (41°F)*	Evaporation rate (Butyl acetate = 1): Ca 2* Flammability (solid/gas): Data not available. Explosion limits: Lower / Upper: 4.0%(V) / 20.0%(V)* Vapor pressure (mm Hg): Ca 50 @ 20°C* Vapor density (Air = 1): Ca 1.5* Relative density (Specific gravity): 0.7919-0.7955°C @ 60/60°F* Solubility(ies): Soluble in water.	Partition coefficient: (n-octanol / water): Low Pow: -.32* Auto-ignition temperature: 400°C (752°F)* Decomposition temperature: Data not available. Viscosity: Data not available. Molecular formula: Mixture Molecular weight: Mixture *[Ethanol]
---	--	--

Section 10 Stability and reactivity

Chemical stability: Stable **Hazardous polymerization:** Will not occur.

Conditions to avoid: Excessive temperatures, heat, sparks, open flame and other sources of ignition.

Incompatible materials: Strong oxidizers, inorganic acids and halogens.

Hazardous decomposition products: Oxides of carbon.

Section 11 Toxicological information

Acute toxicity: Oral-rat LD50: 7060 mg/kg ; Inhalation-rat LC50: 124.7 mg/l/4hours [Ethanol]

Skin corrosion/irritation: Skin-rabbit - Slight irritant.

Serious eye damage/irritation: Eyes-rabbit - Severe irritant.

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: This product contains a chemical reasonably anticipated to be a human carcinogen. [Phenolphthalein]

IARC classified: Group 3: Not classifiable as to its carcinogenicity to humans. [Isopropanol] Group 2B: Possibly carcinogenic to humans. [Phenolphthalein]

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

CA Prop 65: ⚠️ WARNING! : This product can expose you to chemicals including Phenolphthalein, Methanol, and Methyl isobutyl ketone, which are known to the State of California to cause cancer and birth defects or other reproductive harm.

Reproductive toxicity: Data not available

STOT-single exposure: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: Inhalation may cause dizziness, drowsiness, nausea, vomiting, inability to concentrate and irritation of the throat.

Ingestion: Ingestion causes dizziness, drowsiness, decreased reaction, euphoria, nausea, vomiting, staggering gait and coma.

Skin: Contact with skin causes irritation defatting on prolonged contact.

Eyes: Contact with eyes may cause blindness.

Signs and symptoms of exposure: Risk of cancer depends on level and duration of exposure.

Additional information: RTECS #: KQ6300000 [Ethanol]

Section 12 Ecological information

Toxicity to fish: Oncorhynchus mykiss (fish, fresh water), LC50 = 11,200 mg/l/24 hours [Ethanol]

Toxicity to daphnia and other aquatic invertebrates: Daphnia magna (Crustacia), EC50 = 10,800 mg/l/24 hours [Ethanol, 99.8% pure]

Toxicity to algae: Chlorella pyrenoidosa (Algae), EC50 = 9,310 mg/l/growth rate [Ethanol, absolute]

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport information

UN/NA number: UN1170

Shipping name: Ethanol solution

Hazard class: 3

Packing group: II

Reportable Quantity: 5,000 lbs (2270 kg)

Marine pollutant: No

Exceptions: Limited quantity equal to or less than 1 L

2020 ERG Guide # 127

Section 15 Regulatory information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Ethanol	Listed	Not listed	D001	Listed	Not listed	⚠️ WARNING -Cancer and Reproductive Harm - www.P65Warnings.ca.gov.
Methanol	Listed	5,000 lbs.	U154	Listed	Not listed	
Isopropanol	Listed	Not listed	Not listed	Listed	Not listed	

Section 16 Other information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

Section 1 Identification

Page E1 of E2

INNOVATING SCIENCE®

"Cutting edge science for the classroom"

by Aldon
221 Rochester Street
Avon, NY 14414-9409
(585) 226-6177

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
For laboratory and industrial use only.
Not for drug, food or household use.

Product	YELLOW INDICATOR
----------------	-------------------------

Synonyms	None available
-----------------	----------------

Section 2 Hazards identification

Signal word: DANGER**Pictograms:** GHS02 / GHS06 / GHS08**Target organs:** Eyes, Central nervous system, Liver, Kidneys.**GHS Classification:**

Flammable liquid (Category 2)
Acute toxicity, oral (Category 3)
Acute toxicity, dermal (Category 3)
Acute toxicity, inhalation (Category 3)
Eye irritation (Category 2B)
STOT-SE (Category 2)
STOT-SE (Category 3)

GHS Label information: Hazard statement:

H225: Highly flammable liquid and vapour.
H301: Toxic if swallowed.
H311: Toxic in contact with skin.
H319: Causes serious eye irritation.
H331: Toxic if inhaled.
H336: May cause drowsiness or dizziness.
H371: May cause damage to organs.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known
Physical hazards not otherwise classified (PHNOC) - Not Known

Precautionary statement:

P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233+P235: Keep container tightly closed. Keep cool.
P240: Ground/bond container and receiving equipment.
P241: Use explosion-proof electrical/ventilating/lighting equipment.
P242: Use only non-sparking tools.
P243: Take precautionary measures against static discharge.
P260: Do not breathe mist/vapours/spray.
P264: Wash hands thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P271: Use only outdoors or in a well-ventilated area.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308+P311: IF exposed or concerned: Call a POISON CENTER or doctor.
P337+P313: If eye irritation persists: Get medical attention.
P361+P364: Take off immediately all contaminated clothing and wash it before reuse.
P370+P378: In case of fire: Use dry chemical, alcohol foam, carbon dioxide or water spray to extinguish.
P403+P405: Store in a well-ventilated place. Store locked up.
P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Section 3 Composition / information on ingredients

Chemical Name	CAS #	%	EINECS
Ethyl alcohol	64-17-5	78.06 - 78.79%	200-578-6
Isopropyl alcohol	67-63-0	8.26%	200-661-7
Water	7732-18-5	4.83%	231-791-2
Methanol	67-56-1	3.67 - 3.94%	200-659-6
p-Nitrophenol	100-02-7	3.33%	202-811-7
Hydrochloric acid	7647-01-0	<1.00%	231-595-7
Methyl isobutyl ketone	108-10-1	0.85 - 0.91%	203-550-1

Section 4 First aid measures

INGESTION: TOXIC IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: TOXIC IF INHALED. CAUSES RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES SERIOUS EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: TOXIC IN CONTACT WITH SKIN. CAUSES SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical, dry sand, alcohol foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Vapors formed from this product are heavier than air and may travel along the ground to a distant source of ignition and flash back instantly. Flame may not be visible in daylight.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Remove all sources of ignition. Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from ignition sources.

Section 8 Exposure controls / personal protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Ethanol	STEL: 1000 ppm / 1880 mg/m ³ (A3)	TWA: 1000 ppm / 1900 mg/m ³	TWA: 1000 ppm / 1900 mg/m ³

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical and chemical properties

Appearance: Clear, colorless liquid. Odor: Mild characteristic odor. Odor threshold: Data not available. pH: Data not available. Melting / Freezing point: -114°C (-173°F)* Boiling point: 74-80°C (165.2-176°F)* Flash point: 5°C (41°F)*	Evaporation rate (Butyl acetate = 1): Ca 2* Flammability (solid/gas): Data not available. Explosion limits: Lower / Upper: 4.0%(V) / 20.0%(V)* Vapor pressure (mm Hg): Ca 50 @ 20°C* Vapor density (Air = 1): Ca 1.5* Relative density (Specific gravity): 0.7919-0.7955°C @ 60/60°F* Solubility(ies): Soluble in water.	Partition coefficient: (n-octanol / water): Low Pow: -.32* Auto-ignition temperature: 400°C (752°F)* Decomposition temperature: Data not available. Viscosity: Data not available. Molecular formula: Mixture Molecular weight: Mixture *[Ethanol]
---	--	--

Section 10 Stability and reactivity

Chemical stability: Stable **Hazardous polymerization:** Will not occur.

Conditions to avoid: Excessive temperatures, heat, sparks, open flame and other sources of ignition.

Incompatible materials: Strong oxidizers, inorganic acids and halogens.

Hazardous decomposition products: Oxides of carbon.

Section 11 Toxicological information

Acute toxicity: Oral-rat LD50: 7060 mg/kg ; Inhalation-rat LC50: 124.7 mg/l/4hours [Ethanol] / Oral-rat LD50: 450-850 mg/kg [p-Nitrophenol]

Skin corrosion/irritation: Skin-rabbit - Slight irritant.

Serious eye damage/irritation: Eyes-rabbit - Severe irritant.

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC classified: Group 3: Not classifiable as to its carcinogenicity to humans. [Isopropanol]

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

CA Prop 65: ⚠️ **WARNING!** : This product can expose you to chemicals including Methanol and Methyl isobutyl ketone, which are known to the State of California to cause cancer and birth defects or other reproductive harm.

Reproductive toxicity: Data not available

STOT-single exposure: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: Inhalation may cause dizziness, drowsiness, nausea, vomiting, inability to concentrate and irritation of the throat.

Ingestion: Ingestion causes dizziness, drowsiness, decreased reaction, euphoria, nausea, vomiting, staggering gait and coma.

Skin: Contact with skin causes irritation defatting on prolonged contact.

Eyes: Contact with eyes may cause blindness.

Signs and symptoms of exposure: See Potential health effects above.

Additional information: RTECS #: KQ6300000 [Ethanol]

Section 12 Ecological information

Toxicity to fish: Oncorhynchus mykiss (fish, fresh water), LC50 = 11,200 mg/l/24 hours [Ethanol]

Toxicity to daphnia and other aquatic invertebrates: Daphnia magna (Crustacia), EC50 = 10,800 mg/l/24 hours [Ethanol, 99.8% pure]

Toxicity to algae: Chlorella pyrenoidosa (Algae), EC50 = 9,310 mg/l/growth rate [Ethanol, absolute]

Persistence and degradability: No data available **Bioaccumulative potential:** No data available

Mobility in soil: No data available **PBT and vPvB assessment:** No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport information

UN/NA number: UN1170 **Shipping name:** Ethanol solution

Hazard class: 3

Packing group: II

Reportable Quantity: 5,000 lbs (2270 kg)

Marine pollutant: No

Exceptions: Limited quantity equal to or less than 1 L

2020 ERG Guide # 127

Section 15 Regulatory information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Ethanol	Listed	Not listed	D001	Listed	Not listed	⚠️ WARNING -Cancer and Reproductive Harm - www.P65Warnings.ca.gov.
Methanol	Listed	5,000 lbs.	U154	Listed	Not listed	
Isopropanol	Listed	Not listed	Not listed	Listed	Not listed	
p-Nitrophenol	Listed	100 lbs. (45.4 kg)	U170	Listed	Not listed	

Section 16 Other information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.