

# Safety Data Sheet

## Combined Acid Buffer

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Combined Acid Buffer

**Synonyms/Generic Names:** None

**Product Number:** 8321

**Product Use:** Industrial, Manufacturing or Laboratory use

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

**For More Information:** 920-623-2140 (Monday-Friday 8:00-4:30)  
[www.columbuschemical.com](http://www.columbuschemical.com)

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

### 2. HAZARDS IDENTIFICATION

**Signal Word:** Danger

**Pictograms:**



**GHS Classification:**

Skin corrosion	Category 1A
Serious eye damage	Category 1

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

**Hazard Statements:**

H314	Causes severe skin burns and eye damage.
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**Precautionary Statements:**

P260	Do not breathe dusts or mists.
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.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor/physician.
P363	Wash contaminated clothing before reuse.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local regulations.

**Potential Health Effects**

<b>Eyes</b>	Causes eye burns.
<b>Inhalation</b>	May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
<b>Skin</b>	Causes skin burns.
<b>Ingestion</b>	May be harmful if swallowed.

**NFPA Ratings**

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

**HMIS Ratings**

<b>Health</b>	1
<b>Fire</b>	0
<b>Reactivity</b>	0

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Acetic Acid	9.5	64-19-7	200-580-7	C <sub>2</sub> H <sub>4</sub> O <sub>2</sub>	60.05 g/mol
Nitric Acid	<1	7697-37-2	231-714-2	HNO <sub>3</sub>	63.01 g/mol
Polyvinyl Alcohol	<1	9002-89-5	N/A	C <sub>2</sub> H <sub>4</sub> O	44.00 g/mol
Gelatin, Type B	<1	9000-70-8	N/A	N/A	N/A
Water	Balance	7732-18-5	N/A	H <sub>2</sub> O	18.00 g/mol

**4. FIRST-AID MEASURES**

<b>Eyes</b>	Immediately 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>	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing 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>	Product is not flammable. Use appropriate media for adjacent fire. Cool unopened 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.

<b>Specific hazards arising from the chemical</b>	Emits toxic fumes (carbon oxides) under fire conditions. (See also Stability and Reactivity section).
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## 6. ACCIDENTAL RELEASE MEASURES

<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>	Absorb spill with noncombustible 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.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use. Avoid formation of aerosols.

### Conditions for safe storage, including any incompatibilities

Store in cool, dry, well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities).

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Component	Exposure Limits	Basis	Entity
Acetic Acid	10 ppm 25 mg/m <sup>3</sup>	PEL	OSHA
	10 ppm 25 mg/m <sup>3</sup>	TLV	ACGIH
	15 ppm 37 mg/m <sup>3</sup>	STEL	ACGIH
Nitric Acid	10 ppm 25 mg/m <sup>3</sup>	REL	NIOSH
	15 ppm 37 mg/m <sup>3</sup>	STEL	NIOSH
	2 ppm 5.2 mg/m <sup>3</sup>	TLV	ACGIH
	4 ppm 10 mg/m <sup>3</sup>	STEL	ACGIH
	2 ppm 5 mg/m <sup>3</sup>	PEL	OSHA
	2 ppm 5 mg/m <sup>3</sup>	REL	NIOSH
	4 ppm 10 mg/m <sup>3</sup>	STEL	NIOSH

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

### Personal Protection

<b>Eyes</b>	Wear chemical safety glasses with a face shield for splash protection.
<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 and a full body suit. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
<b>Other</b>	Not Available

### Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling. Have supplies and equipment for neutralization and running water available.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	Clear, colorless liquid
Odor	Pungent vinegar odor
Odor threshold	Not Available
pH	Not Available
Melting point/freezing point	Not Available
Initial boiling point and boiling range	Not Available
Flash point	Not Flammable
Evaporation rate	Not Available
Flammability (solid, gas)	Not Flammable
Upper/lower flammability or explosive limit	Not Explosive
Vapor pressure	Not Available
Vapor density	Not Available
Relative density	1.0074 (water = 1)
Solubility (ies)	Completely soluble in water
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>	Not Available
<b>Incompatible Materials</b>	Strong bases, reducing agents, metals, alkali metals.
<b>Hazardous Decomposition Products</b>	Carbon oxides, nitrogen oxides.

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

#### Acetic Acid

<b>Skin</b>	LD50 Dermal – rabbit – 1112 mg/kg
<b>Eyes</b>	Not Available

<b>Respiratory</b>	LC50 Inhalation – mouse – 1 hour – 5620 ppm
<b>Ingestion</b>	LD50 Oral – rat – 3310 mg/kg

*Nitric Acid*

<b>Skin</b>	Not Available
<b>Eyes</b>	Not Available
<b>Respiratory</b>	LC50-rat- 1 hour: 7 mg/kg
<b>Ingestion</b>	LD50-human- 430 mg/kg

**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>	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
<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>	May cause irritation. Symptoms include burning, itching, redness, inflammation and/or swelling of exposed tissues.
<b>Eyes</b>	Contact may cause irritation. Symptoms include eye burns, watering eyes.
<b>Respiratory</b>	Inhalation of mists can cause irritating action on mucous membranes. Symptoms include burning, choking, coughing, wheezing, laryngitis, shortness of breath headache or nausea.
<b>Ingestion</b>	May cause irritation of the mouth, gullet and gastrointestinal tract. Symptoms include burning, choking, nausea, vomiting, and severe pain.

<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>	Teeth, Kidneys.
<b>Reproductive Toxicity</b>	Not Available
<b>Respiratory/Skin Sensitization</b>	Not Available

**12. ECOLOGICAL INFORMATION****Ecotoxicity***Acetic Acid*

<b>Aquatic Vertebrate</b>	LC50: 423 mg/l 24 hours [Fish (Goldfish)] 88 ppm 96 hours [Fish (fathead minnow)] 75 ppm 96 hours [Fish (bluegill sunfish)]
<b>Aquatic Invertebrate</b>	LC50: 100 ppm [Daphnia]
<b>Terrestrial</b>	Not Available

*Nitric Acid*

<b>Aquatic Vertebrate</b>	Aquatic fish; LC50 (96 hours): 72 mg/l ( <i>Gambusia affinis</i> )
<b>Aquatic Invertebrate</b>	Not Available
<b>Terrestrial</b>	Not Available
<b>Persistence and Degradability</b>	Not Available
<b>Bioaccumulative Potential</b>	Not Available
<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

<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 product container.
<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.

### 14. TRANSPORTATION INFORMATION

US DOT	Not Dangerous Goods
TDG	Not Dangerous Goods
IMDG	Not Dangerous Goods
Marine Pollutant	No
IATA/ICAO	Not Dangerous Goods

### 15. REGULATORY INFORMATION

TSCA Inventory Status	All ingredients are listed on the TSCA Active inventory.
DSL / NDSL	All ingredients are listed on the DSL inventory.
California Proposition 65	Not Listed
Rhode Island: Hazardous Substance List	Listed: Acetic Acid, Nitric Acid
Massachusetts: Toxic or Hazardous Substance List, Right to Know	Listed: Acetic Acid, Nitric Acid
Pennsylvania: Hazardous Substance List	Listed: Acetic Acid, Nitric Acid
New Jersey: Right to Know Hazardous Substance List	Listed: Acetic Acid, Nitric Acid
SARA 302	Listed: Nitric Acid
SARA 304	Listed: Nitric Acid
SARA 311	Acute Health Hazard.
SARA 312	Acute Health Hazard.
SARA 313	Listed: Nitric Acid
WHMIS Canada	Class C: Oxidizing material. Class D2B: Poisonous and infectious material – Other effects – Toxic. Class E: Corrosive material.

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**16. OTHER INFORMATION**

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<b>Revision</b>	<b>Date</b>
Original	07/11/2011
Revision 1	07/24/2014
Revision 2	06/13/2016
Revision 3	09/01/2021

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