

# Safety Data Sheet

## Aqua Regia, V/V

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### 1. PRODUCT AND COMPANY IDENTIFICATION

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**Product Name:** Aqua Regia, V/V

**Synonyms/Generic Names:** None

**Product Number:** 8196

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

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

**For More Information Call:** 920-623-2140 (Monday-Friday 8:00-4:30)

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

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### 2. HAZARDS IDENTIFICATION

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**OSHA Hazards:** Corrosive, Target organ effect, Harmful by ingestion

**Target Organs:** Lungs, Teeth, Cardiovascular system

**Signal Words:** Danger

**Pictograms:**



#### GHS Classification

Acute toxicity, Inhalation	Category 4
Acute toxicity, Oral	Category 5
Skin corrosion	Category 1A
Serious eye damage	Category 1
Oxidizing liquids	Category 3
Specific target organ toxicity – single exposure	Category 3

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

H272	May intensify fire; oxidizer.
H303	May be harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.

**Precautionary Statements:**

P220	Keep/store away from clothing/combustible materials.
P261	Avoid breathing dust/fume/mist/gas/vapors/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor/physician.

**Potential Health Effects**

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

**NFPA Ratings**

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

**HMIS Ratings**

<b>Health</b>	3
<b>Fire</b>	0
<b>Reactivity</b>	1
<b>Personal</b>	J

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**3. COMPOSITION/INFORMATION ON INGREDIENTS**

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<b>Component</b>	<b>Weight %</b>	<b>CAS #</b>	<b>EINECS# / ELINCS#</b>	<b>Formula</b>	<b>Molecular Weight</b>
Hydrochloric Acid	12-13	7647-01-0	231-595-7	HCl	36.46 g/mol
Nitric Acid	27-28	7697-37-2	231-714-2	HNO <sub>3</sub>	63.01 g/mol
Water	Balance	7732-18-5	231-791-2	H <sub>2</sub> O	18.00 g/mol

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**4. FIRST-AID MEASURES**

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<b>Eyes</b>	In case of eye contact, rinse with plenty of water and seek medical attention immediately.
<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 immediately.
<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 immediately.
<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 immediately.

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## 5. FIREFIGHTING MEASURES

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<b>Suitable (and unsuitable) extinguishing media</b>	Product is not flammable. Use appropriate media for adjacent fire. Cool containers with water, keep away from common metals.
<b>Special protective equipment and precautions for firefighters</b>	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots. Material can react violently with water (spattering and misting) and react with metals to produce flammable hydrogen gas.
<b>Specific hazards arising from the chemical</b>	Emits toxic fumes under fire conditions. (Nitrogen oxides, Hydrogen chloride gas) (See also Stability and Reactivity section). Material can react with metals to produce flammable hydrogen gas.

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## 6. ACCIDENTAL RELEASE MEASURES

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<b>Personal precautions, protective equipment and emergency procedures</b>	See section 8 for recommendations on the use of personal protective equipment.
<b>Environmental precautions</b>	Do not let product enter drains. This material is acidic and may lower the pH of the surface waters with low buffering capacity. Releases should be reported, if required, to appropriate agencies.
<b>Methods and materials for containment and cleaning up</b>	Cleanup personnel need personal protection from inhalation and skin/eye contact. Evacuate and ventilate the area. Neutralize spill with soda ash or lime. Absorb neutralized spill with vermiculite or other inert absorbent material, then place in a suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste or cleanup materials in accordance with local regulations. Containers, even when empty, will retain residue and vapors.

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## 7. HANDLING AND STORAGE

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### 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.

### Conditions for safe storage, including any incompatibilities

Store in cool, dry well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities). Drains for storage or use areas for this material should have retention basins for pH adjustment and dilution of spills.

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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Component	Exposure Limits	Basis	Entity
Hydrochloric Acid	2 ppm 2.98 mg/m <sup>3</sup>	STEL	ACGIH
	5 ppm 7 mg/m <sup>3</sup>	STEL	OSHA
	5 ppm 7 mg/m <sup>3</sup>	STEL	NIOSH
Nitric Acid	2 ppm	TLV	ACGIH

	5.2 mg/m <sup>3</sup>		
	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

#### 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 neoprene or rubber gloves, apron and other protective clothing appropriate to the risk of exposure.
<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 to slight yellow liquid
Odor	Acidic
Odor threshold	Not Available
pH	1
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	Not Available
Solubility (ies)	Completely soluble in water
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	Not Available
Decomposition temperature	Not Available

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## 10. STABILITY AND REACTIVITY

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<b>Chemical Stability</b>	Stable
<b>Possibility of Hazardous Reactions</b>	Will not occur.
<b>Conditions to Avoid</b>	Uncontrolled addition of water, contact with combustible materials.
<b>Incompatible Materials</b>	Moisture, bases, organic material, metals, hydrogen sulfide, carbides, alcohols, organic solvents, carbides, cyanides, sulfides.
<b>Hazardous Decomposition Products</b>	Nitrogen oxides, Hydrogen chloride gas.

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## 11. TOXICOLOGICAL INFORMATION

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### Acute Toxicity

#### *Hydrochloric Acid*

<b>Skin</b>	Not Available
<b>Eyes</b>	Not Available
<b>Respiratory</b>	LC50 Inhalation – rat – 1 h – 3124 ppm
<b>Ingestion</b>	LD50 Oral – rabbit – 700 mg/kg

#### *Nitric Acid*

<b>Skin</b>	Not Available
<b>Eyes</b>	Not Available
<b>Respiratory</b>	LC50 Inhalation – rat – 244 ppm LC50 (rat): 0.8 mg/L
<b>Ingestion</b>	Not Available

### Carcinogenicity

<b>IARC</b>	3 – Group 3: Not classifiable as to its carcinogenicity to humans (Hydrochloric Acid)
<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>Eyes</b>	Eye burns, watering eyes.
<b>Inhalation</b>	Burning, choking, coughing, wheezing, laryngitis, shortness of breath, headache or nausea.
<b>Skin</b>	Burning, itching, redness, inflammation and/or swelling of exposed tissues.
<b>Ingestion</b>	Severe and rapid corrosive burns of the mouth, gullet and gastrointestinal tract will result if swallowed. 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>	Not Available

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## 12. ECOLOGICAL INFORMATION

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### Ecotoxicity

#### Hydrochloric Acid

<b>Aquatic Vertebrate</b>	LC50 – Gambusia affinis (Mosquito fish) – 282 mg/l – 96 hours
<b>Aquatic Invertebrate</b>	LC80 (72 hours): 56 mg/L (Daphnia Magna)
<b>Terrestrial</b>	Not Available

#### Nitric Acid

<b>Aquatic Vertebrate</b>	Aquatic fish; LC50 (96 hrs): 72 mg/l (Gambusia affinis)
<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

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

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## 14. TRANSPORTATION INFORMATION

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US DOT	UN3264, Corrosive liquid, acidic, inorganic, n.o.s., (Nitric Acid and Hydrochloric Acid), 8, pg II
TDG	UN3264, CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S., (NITRIC ACID AND HYDROCHLORIC ACID), 8, pg II
IMDG	UN3264, CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S., (NITRIC ACID AND HYDROCHLORIC ACID), 8, pg II
Marine Pollutant	No
IATA/ICAO	UN3264, Corrosive liquid, acidic, inorganic, n.o.s., (Nitric Acid and Hydrochloric Acid), 8, pg II

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## 15. REGULATORY INFORMATION

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TSCA Inventory Status	All ingredients are listed on the TSCA inventory.
DSCL (EEC)	All ingredients are listed on the DSCL inventory.
California Proposition 65	Not Listed
SARA 302	Listed: Hydrochloric Acid, Nitric Acid
SARA 304	Listed: Hydrochloric Acid, Nitric Acid
SARA 311	Hydrochloric Acid, Nitric Acid
SARA 312	Hydrochloric Acid, Nitric Acid
SARA 313	Listed: Hydrochloric Acid, Nitric Acid
WHMIS Canada	Class E: Corrosive liquid Class D- 2A: Material causing other toxic effects (very toxic)

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## 16. OTHER INFORMATION

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Revision	Date
Revision 1	08-08-2011
Revision 2	08/01/2013

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