



Safety Data Sheet

Section 1: Identification

Product identifier

Product Name

- **Muriatic Acid (7-23 deg. Baume/15-38%)**

Synonyms

- HCl; Hydrochloric Acid; Hydrogen Chloride; Muriatic Acid

Relevant identified uses of the substance or mixture and uses advised against

Recommended use

- Industrial applications

Details of the supplier of the safety data sheet

Manufacturer

- Axiall, LLC
1000 Abernathy Rd. NE, Suite 1200
Atlanta, GA 30328
United States
www.axiall.com
msdsinfo@axiall.com

Telephone (General) • +1 225-685-1240

Emergency telephone number

Manufacturer

- +1 304-455-6882

Section 2: Hazard Identification

United States (US)

According to OSHA 29 CFR 1910.1200 HCS

Classification of the substance or mixture

OSHA HCS 2012

- Corrosive to Metals 1 - H290
Acute Toxicity Oral 4 - H302
Skin Corrosion 1B - H314
Serious Eye Damage 1 - H318
Acute Toxicity Inhalation 4 - H332
Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation - H335

Label elements

OSHA HCS 2012

DANGER



- Hazard statements**
- May be corrosive to metals - H290
Harmful if swallowed - H302
Causes severe skin burns and eye damage. - H314
Causes serious eye damage - H318

Harmful if inhaled - H332
May cause respiratory irritation - H335

Precautionary statements

- Prevention** ● Keep only in original container. - P234
Do not breathe mist/vapours/spray. - P260
Wash thoroughly after handling. - P264
Do not eat, drink or smoke when using this product. - P270
Use only outdoors or in a well-ventilated area. - P271
Wear protective gloves/protective clothing/eye protection/face protection. - P280
- Response** ● Absorb spillage to prevent material damage. - P390
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. - P304+P340
Call a POISON CENTER or doctor/physician if you feel unwell. - P312
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. - P303+P361+P353
Wash contaminated clothing before reuse. - P363
Specific treatment, see supplemental first aid information. - P321
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. - P305+P351+P338
Immediately call a POISON CENTER or doctor/physician. - P310
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician if you feel unwell. - P301+P312
Rinse mouth. - P330
Do NOT induce vomiting. - P331
- Storage/Disposal** ● Store in corrosive resistant/ container with a resistant inner liner. - P406
Store in a well-ventilated place. Keep container tightly closed. - P403+P233
Store locked up. - P405
Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. - P501

Other hazards

OSHA HCS 2012

- Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Canada

According to WHMIS

Classification of the substance or mixture

WHMIS

- Corrosive - E

Label elements

WHMIS



- Corrosive - E

Other hazards

WHMIS

- In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

Section 3 - Composition/Information on Ingredients

Substances

Composition				
Chemical Name	Identifiers	%	LD50/LC50	Classifications According to Regulation/Directive
Hydrochloric acid	CAS:7647-01-0	15% TO 40%	Inhalation-Rat LC50 • 3124 ppm 1 Hour(s)	OSHA HCS 2012: Skin Corr. 1B; Eye Corr. 1; Acute Tox. 4 (oral, inhal)

Mixtures

- Material does not meet the criteria of a mixture.

Section 4: First-Aid Measures

Description of first aid measures

Inhalation

- Move victim to fresh air. Administer oxygen if breathing is difficult. Do not use mouth-to-mouth method if victim inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Give artificial respiration if victim is not breathing. Get medical attention immediately.

Skin

- For minor skin contact, avoid spreading material on unaffected skin. Remove and isolate contaminated clothing. Wash the contaminated area of body with soap and fresh water. Get medical attention immediately.

Eye

- Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first five minutes, then continue rinsing eye. Get medical attention immediately.

Ingestion

- If swallowed, rinse mouth with water (only if the person is conscious). Do NOT induce vomiting. Do not use mouth-to-mouth method if victim ingested the substance. Obtain medical attention immediately if ingested.

Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

Indication of any immediate medical attention and special treatment needed

Notes to Physician

- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Section 5: Fire-Fighting Measures

Extinguishing media

Suitable Extinguishing Media • Use dry chemical, CO₂, water spray (fog), or foam.

Unsuitable Extinguishing Media • No data available

Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards

- Containers may explode when heated. Emits toxic fumes under fire conditions.

Hazardous Combustion Products

- Decomposition products may include the following materials: halogenated compounds, may release dangerous gases (chlorine).

Advice for firefighters

- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Wear positive pressure self-contained breathing apparatus (SCBA).

Move containers from fire area if you can do it without risk.
 LARGE FIRES: Cool containers with flooding quantities of water until well after fire is out.
 Dike fire control water for later disposal; do not scatter the material.

Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Personal Precautions

- Ventilate enclosed areas. Do not walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Wear appropriate personal protective equipment, avoid direct contact. Do not breathe mist, vapors, spray. Do not get in eyes, on skin, or on clothing.

Emergency Procedures

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Do not get water inside container.

Environmental precautions

- Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Containment/Clean-up Measures

- Stop leak if you can do it without risk. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
 LARGE SPILLS: Dike far ahead of spill for later disposal.

Section 7 - Handling and Storage

Precautions for safe handling

Handling

- Handle and open container with care. Use only with adequate ventilation. Keep away from heat. Use caution when combining with water; DO NOT add water to corrosive liquid, ALWAYS add corrosive liquid to water while stirring to prevent release of heat, steam and fumes. Wear appropriate personal protective equipment, avoid direct contact. Do not breathe mist, vapors, spray. Do not get in eyes, on skin, or on clothing. Do not ingest. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

Conditions for safe storage, including any incompatibilities

Storage

- Keep container tightly closed. Store in a cool, dry, well-ventilated place. Keep away from incompatible materials. Keep from direct sunlight. Separate from alkalis. Do not store above the following temperature: 49°C/120°F. FOR BULK STORAGE CONTAINERS: Bulk storage tanks should be constructed of corrosion-resistant materials such as rubber- or glass-lined steel, fiberglass, or plastic and should be vented to a scrubber to remove acid fumes. Bulk storage tanks should contain a dike sufficiently large enough to contain entire contents.

Section 8 - Exposure Controls/Personal Protection

Control parameters

Exposure Limits/Guidelines

	Result	ACGIH	Canada British Columbia	Canada Ontario	Canada Quebec	NIOSH
Hydrochloric acid (7647-01-0)	Ceilings	2 ppm Ceiling	2 ppm Ceiling	2 ppm Ceiling	5 ppm Ceiling; 7.5 mg/m ³ Ceiling	5 ppm Ceiling; 7 mg/m ³ Ceiling

Exposure Limits/Guidelines (Con't.)

	Result	OSHA
Hydrochloric acid (7647-01-0)	Ceilings	5 ppm Ceiling; 7 mg/m ³ Ceiling

Exposure controls**Engineering Measures/Controls**

- Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal Protective Equipment**Respiratory**

- If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Eye/Face

- Wear chemical splash goggles and face shield.

Skin/Body

- Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. HANDS: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

General Industrial Hygiene Considerations

- Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Environmental Exposure Controls

- Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways. Follow best practice for site management and disposal of waste.

Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene

NIOSH = National Institute of Occupational Safety and Health

OSHA = Occupational Safety and Health Administration

Section 9 - Physical and Chemical Properties**Information on Physical and Chemical Properties**

Material Description			
Physical Form	Liquid	Appearance/Description	Colorless to a light yellow liquid with a pungent odor.
Color	Colorless to light yellow.	Odor	Pungent
Odor Threshold	No data available		
General Properties			
Boiling Point	108 C(226.4 F) (Azeotrope @ 20.2%)	Melting Point	No data available
Decomposition Temperature	No data available	pH	1 [Conc. (% w/w) 0.36%]

Specific Gravity/Relative Density	1.051 to 1.189 Water=1	Water Solubility	100 %
Viscosity	No data available		
Volatility			
Vapor Pressure	15 to 150 mmHg (torr) @ 20 C(68 F)	Vapor Density	1.267 Air=1
Evaporation Rate	No data available	Volatiles (Wt.)	100 %
Volatiles (Vol.)	100 %		
Flammability			
Flash Point	No data available	UEL	No data available
LEL	No data available	Autoignition	No data available
Flammability (solid, gas)	Not relevant.		
Environmental			
Octanol/Water Partition coefficient	No data available		

Section 10: Stability and Reactivity

Reactivity

- No dangerous reaction known under conditions of normal use.

Chemical stability

- Stable under recommended storage and handling conditions.

Possibility of hazardous reactions

- Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to avoid

- When exposed to high temperatures may produce hazardous decomposition products. Avoid increased storage temperature. Pressure hazard.

Incompatible materials

- Attacks many metals producing extremely flammable hydrogen gas which can form explosive mixtures with air. Reactive or incompatible with the following materials: alkalis.

Hazardous decomposition products

- Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11 - Toxicological Information

Information on toxicological effects

	CAS	
Muriatic Acid (7-23 deg. Baume/15-38%)	NDA	Acute Toxicity: Ingestion/Oral-Rat LD50 • 700 mg/kg; Inhalation-Rat LC50 • 3124 ppm; Skin-Rabbit LD50 • >5010 mg/kg
Components		
Hydrochloric acid (15% TO 40%)	7647-01-0	Reproductive: Inhalation-Rat TCLo • 450 mg/m ³ 1 Hour(s)(1D pre); <i>Reproductive Effects:Effects on Embryo or Fetus:Fetotoxicity (except death, e.g., stunted fetus); Reproductive Effects:Specific Developmental Abnormalities:Homeostasis</i>

GHS Properties	Classification
Acute toxicity	OSHA HCS 2012 • Acute Toxicity - Inhalation 4; Acute Toxicity - Oral 4

Aspiration Hazard	OSHA HCS 2012 • Data lacking
Carcinogenicity	OSHA HCS 2012 • Data lacking
Germ Cell Mutagenicity	OSHA HCS 2012 • Data lacking
Skin corrosion/Irritation	OSHA HCS 2012 • Skin Corrosion 1B
Skin sensitization	OSHA HCS 2012 • Data lacking
STOT-RE	OSHA HCS 2012 • Data lacking
STOT-SE	OSHA HCS 2012 • Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation
Toxicity for Reproduction	OSHA HCS 2012 • Data lacking
Respiratory sensitization	OSHA HCS 2012 • Data lacking
Serious eye damage/Irritation	OSHA HCS 2012 • Serious Eye Damage 1

Route(s) of entry/exposure ● Inhalation, Skin, Eye, Ingestion

Potential Health Effects

Inhalation

Acute (Immediate)

- May cause respiratory irritation.

Chronic (Delayed)

- Repeated or prolonged exposure to corrosive fumes may cause bronchial irritation with chronic cough.

Skin

Acute (Immediate)

- Causes severe skin burns.

Chronic (Delayed)

- Repeated or prolonged exposure to corrosive materials will cause dermatitis.

Eye

Acute (Immediate)

- Causes serious eye damage.

Chronic (Delayed)

- Repeated or prolonged exposure to corrosive materials or fumes may cause conjunctivitis.

Ingestion

Acute (Immediate)

- Harmful if swallowed. May cause irreversible damage to mucous membranes.

Chronic (Delayed)

- Repeated or prolonged exposure to corrosive materials or fumes may cause gastrointestinal disturbances.

Carcinogenic Effects

- This material does contain a component that may cause cancer, however based on regulatory criteria this material is not classified as a carcinogen.

Section 12 - Ecological Information

Toxicity

- Material data lacking.

Persistence and degradability

- Material data lacking.

Bioaccumulative potential

- Material data lacking.

Mobility in Soil

- Material data lacking.

Other adverse effects

- No studies have been found.

Section 13 - Disposal Considerations

Waste treatment methods

- Product waste** • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.
- Packaging waste** • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	UN number	UN proper shipping name	Transport hazard class (es)	Packing group	Environmental hazards
DOT	UN1789	Hydrochloric Acid solution	8	II	NDA
TDG	UN1789	HYDROCHLORIC ACID solution	8	II	NDA
IMO/IMDG	UN1789	HYDROCHLORIC ACID solution	8	II	NDA
IATA/ICAO	UN1789	Hydrochloric Acid solution	8	II	NDA

Special precautions for user • None specified.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code • No data available

Section 15 - Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications • Acute

Inventory						
Component	CAS	Canada DSL	Canada NDSL	EU EINECS	EU ELNICS	TSCA
Hydrochloric acid	7647-01-0	Yes	No	Yes	No	Yes

Canada

Labor

Canada - WHMIS - Classifications of Substances

- Hydrochloric acid

7647-01-0

A, D1A, E (listed under Hydrogen chloride); D1A, E; E (0.036% in aqueous solution, 0.36% in aqueous solution, 3.6% in aqueous solution); D1B, E (28% in aqueous solution); D1A, E (31.45% in aqueous solution, 35.2% in aqueous solution)

Canada - WHMIS - Ingredient Disclosure List

- Hydrochloric acid

7647-01-0

1 %

Environment

Canada - CEPA - Priority Substances List

- Hydrochloric acid

7647-01-0

Not Listed

United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

• Hydrochloric acid	7647-01-0	5000 lb TQ; 5000 lb TQ (anhydrous)
---------------------	-----------	------------------------------------

U.S. - OSHA - Specifically Regulated Chemicals

• Hydrochloric acid	7647-01-0	Not Listed
---------------------	-----------	------------

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

• Hydrochloric acid	7647-01-0	
---------------------	-----------	--

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

• Hydrochloric acid	7647-01-0	5000 lb final RQ; 2270 kg final RQ
---------------------	-----------	------------------------------------

U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

• Hydrochloric acid	7647-01-0	Not Listed
---------------------	-----------	------------

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

• Hydrochloric acid	7647-01-0	5000 lb EPCRA RQ (gas only)
---------------------	-----------	-----------------------------

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

• Hydrochloric acid	7647-01-0	500 lb TPQ (gas only)
---------------------	-----------	-----------------------

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

• Hydrochloric acid	7647-01-0	1.0 % de minimis concentration (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)
---------------------	-----------	---

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

• Hydrochloric acid	7647-01-0	Not Listed
---------------------	-----------	------------

U.S. - TSCA (Toxic Substances Control Act) - Section 12(b) - Export Notification

• Hydrochloric acid	7647-01-0	Not Listed
---------------------	-----------	------------

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

• Hydrochloric acid	7647-01-0	Not Listed
---------------------	-----------	------------

U.S. - California - Proposition 65 - Developmental Toxicity

• Hydrochloric acid	7647-01-0	Not Listed
---------------------	-----------	------------

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

• Hydrochloric acid	7647-01-0	Not Listed
---------------------	-----------	------------

U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

• Hydrochloric acid	7647-01-0	Not Listed
---------------------	-----------	------------

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

• Hydrochloric acid 7647-01-0 Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

• Hydrochloric acid 7647-01-0 Not Listed

Other Information

- **WARNING:** This product contains a chemical known to the State of California to cause cancer, birth defects, or other reproductive harm.

Section 16 - Other Information

Last Revision Date

- 16/June/2014

Preparation Date

- 01/May/2014

Other Information

- NSF Drinking Water Treatment Chemicals Listing - hydrochloric acid from Lake Charles, Louisiana; New Martinsville, West Virginia; Longview, Washington; or Beauharnois, Quebec, Canada, is certified for maximum use at 40 mg/l under NSF/ANSI Standard 60.

Disclaimer/Statement of Liability

- The technical data given herein is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release, and is not to be considered a warranty or quality specification. No guarantee is being given as to the end use performance. The product is sold on the basis that buyers test the product for their specific purposes. This information related to the material designated and may not be valid for such material used in combination with any other materials or in any process.

Key to abbreviations

NDA = No Data Available