



FSTI, Inc
6300 Bridgepoint Pkwy. Suite 1-200
Austin, TX, USA, 78730
Telephone: (888) 290 7548

HYDROCHLORIC ACID 33%

SDS Revision Date (mm/dd/yyyy): 07/25/2013

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SECTION 1. IDENTIFICATION

Product identifier used on the label

: **HYDROCHLORIC ACID 33%**

Product Code(s) : Not reported

Recommended use of the chemical and restrictions on use

: Oxidizing Agent; Bleaching Agent; Water Treatment; Fungicide; Industrial laundry bleach; Chemical Intermediate; Laboratory Reagent
Recommended restrictions: None Known.

Chemical family : Inorganic acid

Name, address, and telephone number of the supplier:

FSTI, Inc

6300 Bridgepoint Pkwy.
Suite 1-200
Austin, TX, USA
78730

Supplier's Telephone # : (888) 290-7548

24 Hr. Emergency Tel # : For Chemical Emergency, call SWS Environmental: (877) 742-4215

Name, address, and telephone number of the manufacturer:

Refer to supplier

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

Clear liquid. Pungent odor.

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Hazardous classification:

Corrosive to metals - Category 1

Acute toxicity - Inhalation - Category 4

Acute toxicity - Oral - Category 4

Skin corrosion/irritation - Category 1B

Eye damage/irritation - Category 1

Specific target organ toxicity, single exposure - Category 3

Label elements

Hazard pictogram(s)



Signal Word

DANGER!

Hazard statement(s)

May be corrosive to metals.

Harmful if inhaled or swallowed.

Causes severe skin burns and eye damage.

May cause respiratory irritation.



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Precautionary statement(s)

Keep only in original container.
Do not breathe mist.
Wear protective gloves/clothing and eye/face protection.
Do not eat, drink or smoke when using this product.
Wash hands and face thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Absorb spillage to prevent material damage.

If inhaled: Remove person to fresh air and keep comfortable for breathing.
If swallowed: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTRE or doctor/physician.

Store in corrosive resistant container with a resistant inner liner.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.

Other hazards

Other hazards which do not result in classification:

May cause severe irritation and corrosive damage in the mouth, throat and stomach. Could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed. Prolonged skin contact may cause dermatitis (rash), characterized by red, dry, itching skin. In extreme cases, tooth erosion could result.

Environmental precautions Avoid release to the environment. May be dangerous for the environment. See ECOLOGICAL INFORMATION, Section 12.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

<u>Chemical name</u>	<u>Common name and synonyms</u>	<u>CAS #</u>	<u>Concentration (% by weight)</u>
Hydrochloric Acid	Muriatic acid	7647-01-0	33.00

SECTION 4. FIRST-AID MEASURES

Description of first aid measures

- Ingestion* : Do not induce vomiting. Never give anything by mouth to an unconscious person. If conscious, give the victim plenty of water to drink. Obtain medical attention immediately.
- Inhalation* : Immediately remove person to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Obtain medical attention immediately.
- Skin contact* : Immediately remove contaminated clothing and shoes. Flush skin thoroughly with running water for at least 15 to 20 minutes.. Launder contaminated clothing before reuse, or discard. Contaminated leather may require disposal. Obtain medical attention immediately.
- Eye contact* : Flush eyes thoroughly with running water for at least 20 minutes, holding eyelids open to ensure complete flushing. Obtain medical attention immediately.



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Most important symptoms and effects, both acute and delayed

- : Harmful if swallowed or if inhaled. Causes skin burns. Symptoms may include blistering, ulcerations and scarring. Causes serious eye damage. Symptoms may include severe pain, tearing, redness, swelling and blurred vision. May cause respiratory irritation. May produce irritation, burning, or destruction of tissues in the respiratory tract, characterized by coughing, choking, pain, or shortness of breath. Could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed. Ingestion may cause severe burns to the mucous membranes of the digestive tract.

Indication of any immediate medical attention and special treatment needed

- : Immediate medical attention is required. Causes chemical burns. Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

- : Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

- : Use water spray with caution. Water may cause spattering of hot material and may spread burning.

Special hazards arising from the substance or mixture / Conditions of flammability

- : Burning produces obnoxious and toxic fumes.

Flammability classification (OSHA 29 CFR 1910.106)

- : Non-flammable.

Hazardous combustion products

- : Hydrogen chloride gas; irritating fumes and smoke.

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

- : Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. A full-body chemical resistant suit should be worn.

Special fire-fighting procedures

- : Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

- : All persons dealing with clean-up should wear the appropriate protective equipment including self-contained breathing apparatus. Keep all other personnel upwind and away from the spill/release. Restrict access to area until completion of clean-up.

Environmental precautions

- : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces. For large spills, dike the area to prevent spreading.

Methods and material for containment and cleaning up

- : Ventilate area of release. Remove all sources of ignition. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13). Notify the appropriate authorities as required.

Special spill response procedures

- : If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802).
US CERCLA Reportable quantity (RQ): Hydrochloric acid (5000 lbs / 2270 kg)



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SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

- : Use in a well-ventilated area. Wear protective gloves/clothing and eye/face protection. Do not breathe mist. Avoid contact with skin, eyes and clothing. Keep away from heat, sparks and open flames. No sparking tools should be used. Avoid contact with incompatible materials. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

Conditions for safe storage : Store in a cool, dry, well-ventilated area. Do not store near acids or other incompatible materials. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. No smoking in the area. Store in corrosive resistant container with a resistant inner liner. Store locked up. Keep container tightly closed.

Incompatible materials : Bases; Metals; Oxidizing agents; Water.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<u>Exposure Limits:</u>			
<u>Chemical Name</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u> <u>STEL</u>
Hydrochloric Acid	N/Av	N/Av	N/Av N/Av

Exposure controls

Ventilation and engineering measures

- : Use in a well-ventilated area. Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.

Respiratory protection : Respiratory protection is required if the concentrations exceed the TLV. NIOSH-approved respirators are recommended. Advice should be sought from respiratory protection specialists.

Skin protection : Wear protective gloves/clothing. Advice should be sought from glove suppliers.

Eye / face protection : Wear eye/face protection. Chemical splash goggles must be worn when handling this material. A full face shield may also be necessary.

Other protective equipment : Wear protective clothing to cover as much of the exposed skin area as possible. An eyewash station and safety shower should be made available in the immediate working area.

General hygiene considerations

- : Do not breathe mist. Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove soiled clothing and wash it thoroughly before reuse.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Colourless to light yellow liquid.

Odour : Pungent odour.

Odour threshold : No information available.

pH : <1.5

Melting/Freezing point : -26°F (-32°C)

Initial boiling point and boiling range

- : 142 - 146°F (61 - 63°C)

Flash point : Non-flammable.



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Flashpoint (Method) : N/Av
Evaporation rate (BuAe = 1) : No information available.
Flammability (solid, gas) : No information available.
Lower flammable limit (% by vol.)
: No information available.
Upper flammable limit (% by vol.)
: No information available.
Oxidizing properties : None.
Explosive properties : Not explosive
Vapour pressure : 76
Vapour density : No information available.
Relative density / Specific gravity
: 1.18
Solubility in water : Completely soluble.
Other solubility(ies) : No information available.
Partition coefficient: n-octanol/water or Coefficient of water/oil distribution
: No information available.
Auto-ignition temperature : No information available.
Decomposition temperature : No information available.
Viscosity : No information available.
Volatiles (% by weight) : No information available.
Volatile organic Compounds (VOC's)
: No information available.
Absolute pressure of container
: N/Av
Flame projection length : N/Av
Other physical/chemical comments
: No additional information.

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not normally reactive.
Chemical stability : Stable under normal conditions.
Possibility of hazardous reactions
: Hazardous polymerization does not occur.
Conditions to avoid : Exposure to moisture. Avoid heat and open flame. Contact with incompatible materials.
Incompatible materials : See Section 7 (Handling and Storage) for further details.
Hazardous decomposition products
: See Section 5 (Fire Fighting Measures).

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Routes of entry inhalation : YES
Routes of entry skin & eye : YES
Routes of entry Ingestion : YES
Routes of exposure skin absorption
: YES



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Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

- : Harmful if inhaled. May cause respiratory irritation. Symptoms may include coughing, choking and wheezing. Could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed.

Sign and symptoms ingestion

- : Harmful if swallowed. Ingestion may cause severe burns to the mucous membranes of the digestive tract. Symptoms may include severe abdominal pain, vomiting, burns and bleeding.

Sign and symptoms skin

- : Causes severe skin irritation. Symptoms may include redness, blistering, pain and swelling.

Sign and symptoms eyes

- : Causes serious eye damage. May cause irreversible eye damage. Symptoms may include severe pain, blurred vision, redness and corrosive damage.

Potential Chronic Health Effects

- : Prolonged skin contact may cause dermatitis (rash), characterized by red, dry, itching skin. Prolonged exposure may cause eye damage. In extreme cases, tooth erosion could result.

Mutagenicity

- : Not expected to be mutagenic in humans.

Carcinogenicity

- : Not known to be carcinogenic.

Reproductive effects & Teratogenicity

- : Not expected to cause reproductive effects.

Sensitization to material

- : Not expected to be a skin or respiratory sensitizer.

Specific target organ effects

- : This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification:
Specific target organ toxicity, single exposure - Category 3

May cause respiratory irritation.

Not classified as specific target organ toxicity-repeated exposure.

Medical conditions aggravated by overexposure

- : Pre-existing skin, eye and respiratory disorders.

Synergistic materials

- : None known or reported by the manufacturer.

Toxicological data

- : There is no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data. The calculated ATE values for this mixture are: ATE oral = 721.00 mg/kg
ATE inhalation (mists) = 3.18 mg/L

<u>Chemical name</u>	<u>LC₅₀(4hr)</u>	<u>LD₅₀</u>	
	<u>inh, rat</u>	<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Hydrochloric Acid	1.05 1.175 mg/L	238-277 mg/kg	5010 mg/kg

Other important toxicological hazards

- : See Section 3 for additional information.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

- : See the following tables for individual ingredient ecotoxicity data. Note:
The toxicity of Hydrochloric acid in the environment is primarily associated with pH. Do not allow material to contaminate ground water system.



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Ecotoxicity data:

<u>Ingredients</u>	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Hydrochloric Acid	7647-01-0	4.92 mg/L (Cyprinus carpio)	n/av	None.

<u>Ingredients</u>	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Hydrochloric Acid	7647-01-0	0.492 mg/L (Daphnia magna)	n/av	None.

<u>Ingredients</u>	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Hydrochloric Acid	7647-01-0	0.492 mg/L/72 (Green algae)	0.097 mg/L (Green algae)	None.

Persistence and degradability

: Biodegradation is not applicable to inorganic substances.

Bioaccumulation potential

: No data is available on the product itself.

<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
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Mobility in soil : No data is available on the product itself.

Other Adverse Environmental effects

: No information available.

SECTION 13. DISPOSAL CONSIDERATIONS

Handling for Disposal

: Handle waste according to recommendations in Section 7. Empty containers retain residue (liquid and/or vapour) and can be dangerous.

Methods of Disposal

: Dispose in accordance with all applicable federal, state, provincial and local regulations.

RCRA

: If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.



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SECTION 14. TRANSPORTATION INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	UN1789	Hydrochloric acid	8	II	
49CFR/DOT Additional information	US CERCLA Reportable quantity (RQ): hydrochloric acid (5000 lbs.)				
TDG	UN1789	HYDROCHLORIC ACID	8	II	
TDG Additional information	None.				

Special precautions for user : None known or reported by the manufacturer.

Environmental hazards : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See ECOLOGICAL INFORMATION, Section 12.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not available.

SECTION 15 - REGULATORY INFORMATION

US Federal Information:

Components listed below are present on the following U.S. Federal chemical lists:

<u>Ingredients</u>	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de minimus Concentration
Hydrochloric Acid	7647-01-0	Yes	5000 lb/ 2270 kg	500 lb TPQ (gas only)	Yes	1%

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: Immediate (Acute) health hazard . Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds for the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

<u>Ingredients</u>	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Hydrochloric Acid	7647-01-0	No	N/Ap	Yes	Yes	Yes	Yes	Yes	Yes



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Canadian Information:

WHMIS Classification: See Section 2. All ingredients listed appear on the Domestic Substances List (DSL) or Non-Domestic Substances List (NDSL).

International Information:

Components listed below are present on the following International Inventory list:

<u>Ingredients</u>	CAS #	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
Hydrochloric Acid	7647-01-0	231-595-7	Present	Present	(1)-215	KE-20189	Present	HSR004090

SECTION 16. OTHER INFORMATION

Legend

: ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Services
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR: Code of Federal Regulations
DOT: Department of Transportation
EPA: Environmental Protection Agency
EST: Eastern Standard Time
HMIS: Hazardous Materials Identification System
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
Inh: Inhalation
LC: Lethal Concentration
LD: Lethal Dose
N/Ap: Not Applicable
N/Av: Not Available
NIOSH: National Institute of Occupational Safety and Health
OSHA: Occupational Safety and Health Administration
PA: Pennsylvania
PEL: Permissible exposure limit
RCRA: Resource Conservation and Recovery Act
RI: Rhode Island
RTECS: Registry of Toxic Effects of Chemical Substances
SARA: Superfund Amendments and Reauthorization Act
STEL: Short Term Exposure Limit
TLV: Threshold Limit Values
TWA: Time Weighted Average
TSCA: Toxic Substance Control Act
WHMIS: Workplace Hazardous Materials Identification System

References

- : 1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2016
2. International Agency for Research on Cancer Monographs, searched 2016
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2016(Chempendium, HSDB and RTECs).
4. Material Safety Data Sheets from manufacturer.
5. US EPA Title III List of Lists - 2016 version.
6. California Proposition 65 List - 2016 version.
7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2016.

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Reviewed Date SDS (dd/mm/yyyy)

: 25/07/2013

Revision No. : 2

Revision Information : All sections modified.

Other special considerations for handling

: Provide adequate information, instruction and training for operators.

Prepared for:

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