SECTION 1. IDENTIFICATION

Identification of the company:	Clariant Corporation 4000 Monroe Road Charlotte, NC, 28205 Telephone No.: +1 704-331-7000 **Information of the substance/preparation:** Product Stewardship, +1-704-331-7710 **Emergency tel. number:** +1 800-424-9300(CHEMTREC)

Trade name:	**Hydrochloric acid,Tech,28-32,Liq**
Material number:	190482
CAS number:	7647-01-0
Synonyms:	Hydrogen Chloride / Hydrochloric Acid / Muriatic
Formula:	HCl
Primary product use:	no data available
Chemical family:	Hydrochloric acid 28%

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Acute toxicity (Oral)	:	Category 4
Acute toxicity (Inhalation)	:	Category 4
Skin corrosion	:	Category 1
Serious eye damage	:	Category 1
Specific target organ toxicity - single exposure	:	Category 3 (Respiratory system)

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H302 + H332 Harmful if swallowed or if inhaled.
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.

Precautionary statements :

Prevention:

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin 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.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
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 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338 + P310 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 CENTER/ doctor.
P363 Wash contaminated clothing before reuse.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
Hydrogen chloride	7647-01-0	26 - 37

SECTION 4. FIRST AID MEASURES

If inhaled : Move the victim to fresh air.
Give oxygen or artificial respiration if needed.
Get immediate medical advice/ attention.
Never give anything by mouth to an unconscious person.

In case of skin contact	:	In case of skin contact, remove contaminated clothing immediately under a safety shower. Flush skin thoroughly with water. Obtain medical attention immediately. Do not reuse contaminated clothing without laundering. Do not reuse contaminated leatherwear.
In case of eye contact	:	Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention.
If swallowed	:	Get medical attention immediately.
Most important symptoms and effects, both acute and delayed	:	None known.
Notes to physician	:	None known.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	water Multipurpose Dry Chemical
Specific hazards during firefighting	:	The acid will not burn, but can start fires with organic materials, nitrates, carbides, chlorates, and metallic powders. Hydrogen, a highly flammable and explosive gas is generated by acid action on most metals. Hydrogen gas may accumulate in containers and care must be taken not to ignite it.
Further information	:	Prevent run off to sewers and bodies of water from fighting fires involving this product as it will be a RCRA hazardous waste material.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Store in area where spills or leaks can be contained and disposed of properly. Contain spill. Use large amounts of water to flush area and soda ash or lime should then be spread to neutralize the effluent. If water is not available, cover the spill with sand or dry ashes and neutralize with lime or soda ash. In the case of a major spill, the proper government agency must be notified for their recommendation regarding neutralization and method of disposal obtained.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling : Hydrogen can be generated inside drums and tanks; therefore open lights, smoking, or sparks should not be permitted near open drums or tanks. When diluting with water, add acid to water - never add water to acid. Do not allow water to enter storage tank as a violent reaction may occur.

Further information on storage conditions : Store in a cool, dry, well-ventilated area. Keep container sealed when not in use.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Hydrogen chloride	7647-01-0	C	2 ppm	ACGIH
		C	5 ppm 7 mg/m3	NIOSH REL
		C	5 ppm 7 mg/m3	OSHA Z-1
		C	5 ppm 7 mg/m3	OSHA P0

Engineering measures : Local ventilation recommended - mechanical ventilation may be used.

Personal protective equipment

Respiratory protection : For acid gases and mists, a full facepiece chemical cartridge respirator approved by NIOSH for acid gases and mists should be used. For emergencies use approved self-contained breathing apparatus in pressure demand mode with full facepiece.

Hand protection
Remarks : Wear protective gloves. PVC Nitrile rubber Neoprene gloves

Eye protection : Tightly fitting safety goggles

Skin and body protection : Acid resistant coats and overalls are appropriate for work conditions. Full acid suit and NIOSH approved self-contained breathing apparatus should be available to handle major spills.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Liquid

Colour	:	clear, light yellow
Odour	:	pungent
Odour Threshold	:	0.25 - 10 ppm
pH	:	< 1
Freezing point	:	-101 °F / -74 °C
		-12 - 63 °F / -24 - 17 °C
Boiling point	:	230 °F / 110 °C
Flash point	:	does not flash
Evaporation rate	:	not available
Upper explosion limit / upper flammability limit	:	not tested.
Lower explosion limit / Lower flammability limit	:	not tested.
Vapour pressure	:	66 - 80 hPa
Relative vapour density	:	1.3
Relative density	:	1.13 - 1.19
Density	:	9.48 - 9.61 g/cm3
Solubility(ies)		
Water solubility	:	soluble
Partition coefficient: n-octanol/water	:	no data available
Viscosity		
Viscosity, dynamic	:	2.3 mPa.s (59 °F / 15 °C)

SECTION 10. STABILITY AND REACTIVITY

Chemical stability	:	Stable
Possibility of hazardous reactions	:	Stable

Conditions to avoid	:	Do not pour water into acid. Do not store near nitrates, carbides, chlorates, cyanides, or other combustible organic substances. Do not mix with metal powders, as hydrogen, a highly flammable and explosive gas, can be generated.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Eye contact
Skin contact
Ingestion
Inhalation

Acute toxicity

Product:

Acute oral toxicity	:	LD50 (Rat): 900 mg/kg
Acute inhalation toxicity	:	Remarks: no data available Acute toxicity estimate: 10.71 mg/l Exposure time: 4 h Test atmosphere: vapour Method: Calculation method
Acute dermal toxicity	:	Remarks: no data available

Components:

Hydrogen chloride:

Acute oral toxicity	:	Remarks: not required
Acute inhalation toxicity	:	LC50 (Rat): 1 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	:	LD50 (Rabbit): > 5,010 mg/kg

Skin corrosion/irritation

Product:

Species: Rabbit
Result: Corrosive

Components:

Hydrogen chloride:

Result: Causes severe burns.

Serious eye damage/eye irritation

Product:

Species: Rabbit
Result: Corrosive

Components:

Hydrogen chloride:

Result: Risk of serious damage to eyes.

Respiratory or skin sensitisation

Components:

Hydrogen chloride:

Result: Not a skin sensitizer.

Carcinogenicity

IARC	Not listed
OSHA	Not listed
NTP	Not listed

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish	:	Remarks: no data available
Toxicity to daphnia and other aquatic invertebrates	:	Remarks: no data available
Toxicity to algae/aquatic plants	:	Remarks: no data available

Components:

Hydrogen chloride:

Toxicity to fish	:	Remarks: Test data for the substance are not available.

Persistence and degradability

Product:

Biodegradability	:	Remarks: no data available

Components:

Hydrogen chloride:

Biodegradability : Remarks: no data available

Bioaccumulative potential

Components:

Hydrogen chloride:

Bioaccumulation : Remarks: Test data for the substance are not available.

Mobility in soil

Components:

Hydrogen chloride:

Distribution among environmental compartments : Remarks: Test data for the substance are not available.

Other adverse effects

Components:

Hydrogen chloride:

Results of PBT and vPvB assessment : Remarks: no data available

Additional ecological information : slightly hazardous to water

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

RCRA - Resource Conservation and Recovery Authorization Act : Yes -- If it becomes a waste as sold.

Waste Code : D002

Waste from residues : This product may yield waste subject to the RCRA land disposal restrictions found at 40 CFR 268. These wastes must be treated according to the treatment standards at 40 CFR 268 subpart D before land disposal.

SECTION 14. TRANSPORT INFORMATION

DOT Regulation:

UN/NA-number: UN 1789
Proper shipping name: Hydrochloric acid

Primary hazard class: 8
Packing group: II
Reportable Quantity: 6,135.000 kg Hydrochloric acid

Emergency Response Guide: 157

IATA

UN/ID number: UN 1789
Proper shipping name: Hydrochloric acid

Primary risk: 8
Packing group: II
Remarks: Shipment permitted

IMDG

UN no.: UN 1789
Proper shipping name: Hydrochloric acid

Primary risk: 8
Packing group: II
EmS: F-A S-B

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Hydrogen chloride	7647-01-0	5000	*

*: Calculated RQ exceeds reasonably attainable upper limit.
A characteristic waste RQ of 100 lbs applies to this product in a waste form: D002

SARA 304 Extremely Hazardous Substances Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Hydrogen chloride	7647-01-0	5000	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 311/312 Hazards : Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation
Specific target organ toxicity (single or repeated exposure)

SARA 313 : Effective july 25, 1996, non-aerosol forms of Hydrochloric Acid were removed from the list of toxic chemicals under Section 313 of the Emergency planning and Community Right-to-Know Act of 1986. This product as sold does not contain any toxic chemical listed under Section 313. Any use of this product that would generate an acid aerosol including mists, vapors, gas, fog and other airborne forms of any particle size would have to be evaluated for possible reporting requirements.

Clean Water Act

Contains no known priority pollutants at concentrations greater than 0.1%.

California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

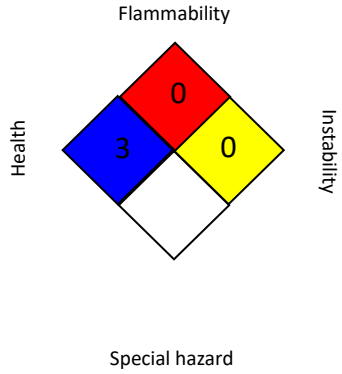
The components of this product are reported in the following inventories:

TSCA : Listed on TSCA

SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
OSHA P0	:	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
ACGIH / C	:	Ceiling limit
NIOSH REL / C	:	Ceiling value not be exceeded at any time.

OSHA P0 / C : Ceiling limit
OSHA Z-1 / C : Ceiling

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Avoid contact with skin, eyes, and clothing. Product is highly corrosive. Keep containers closed when not in use.

Revision Date : 03/26/2020

Conditions of Sale, which control unless it agrees otherwise in writing. Any existing intellectual/industrial property rights must be observed. Due to possible changes in our products and applicable national and international regulations and laws, the status of our products could change. Material Safety Data Sheets providing safety precautions, that should be observed when handling or storing Clariant products, are available upon request and are provided in compliance with applicable law. You should obtain and review the applicable Material Safety Data Sheet information before handling any of these products. For additional information, please contact Clariant.

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