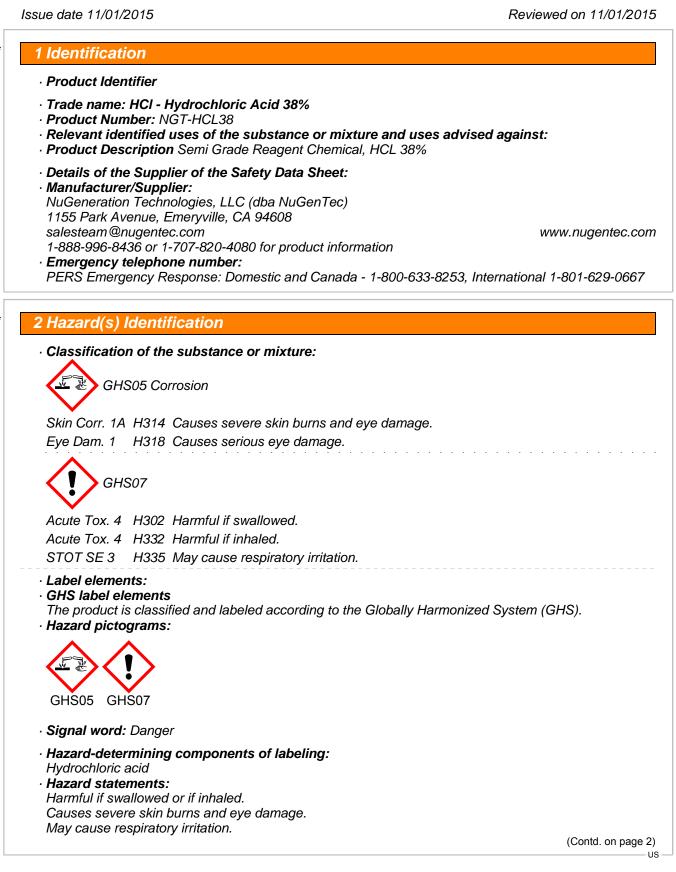


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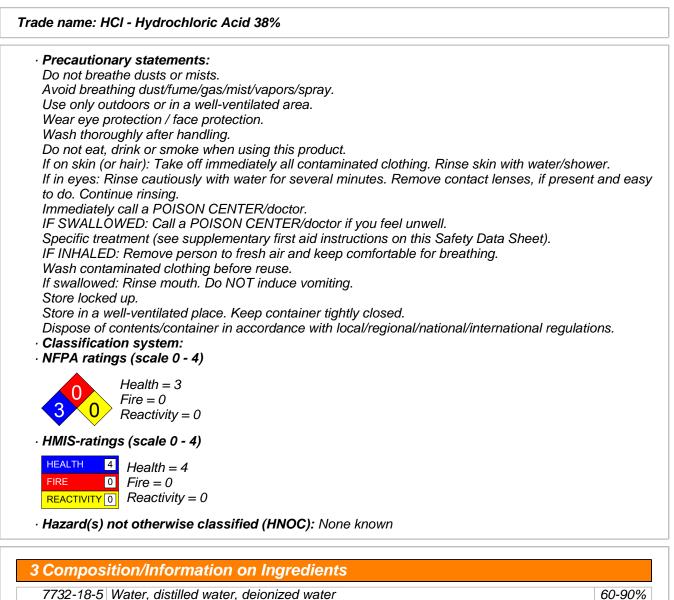




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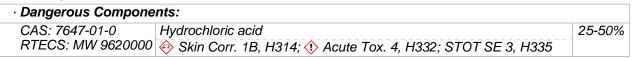
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· Chemical characterization: Mixtures

· Description: Mixture of substances listed below with non-hazardous additions.



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4 First-Aid Measures

- · Description of first aid measures:
- General information:

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may occur after exposure to dust, fumes or particulates; seek medical attention if feeling unwell.

· After inhalation:

Supply fresh air. If required, provide artificial respiration. Consult doctor if symptoms persist. In case of unconsciousness place patient stably in side position for transportation.

- After skin contact: Immediately wash with water and soap and rinse thoroughly. If skin irritation occurs, consult a doctor.
 After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
- · After swallowing:

Immediately call a doctor.

Drink copious amounts of water and provide fresh air. Immediately call a doctor.

- · Information for doctor:
- Most important symptoms and effects, both acute and delayed: Exposure to the mist and vapor may erode exposed teeth. Causes corrosive action on the mucous membranes.
- Indication of any immediate medical attention and special treatment needed: No further relevant information available.

5 Fire-Fighting Measures

- · Extinguishing media:
- · Suitable extinguishing agents:
- CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- · Special hazards arising from the substance or mixture: No further relevant information available.
- Advice for firefighters:
- · Protective equipment:

Mouth respiratory protective device.

As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear to prevent contact with skin and eyes.

6 Accidental Release Measures

- Personal precautions, protective equipment and emergency procedures: Wear protective equipment. Keep unprotected persons away.
- Environmental precautions: Dilute with plenty of water. Do not allow to enter sewers/ surface or ground water.

• Methods and material for containment and cleaning up: Absorb with liquid-binding material (i.e. sand, diatomite, acid binders, universal binders, sawdust). Use neutralizing agent.

Dispose contaminated material as waste according to section 13.

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Ensure adequate ventilation.

Dispose of the collected material according to regulations.

 Reference to other sections: See Section 7 for information on safe handling.
 See Section 8 for information on personal protection equipment.
 See Section 13 for disposal information.

7 Handling and Storage

- · Handling
- · Precautions for safe handling:
- Ensure good ventilation/exhaustion at the workplace. Prevent formation of aerosols.

· Information about protection against explosions and fires: No special measures required.

- · Conditions for safe storage, including any incompatibilities:
- · Storage
- Requirements to be met by storerooms and receptacles: Store in the original container.
- · Information about storage in one common storage facility: Not required.
- · Further information about storage conditions: No further relevant information available..
- · Specific end use(s): No further relevant information available.

8 Exposure Controls/Personal Protection

· Additional information about design of technical systems: No further data; see section 7.

· Control parameters:

· Components with occupational exposure limits:

7647-01-0 Hydrochloric acid

- PEL Ceiling limit value: 7 mg/m³, 5 ppm
- REL Ceiling limit value: 7 mg/m³, 5 ppm
- TLV Ceiling limit value: 2.98 mg/m³, 2 ppm

• Additional information: The lists that were valid during the creation of this SDS were used as basis.

· Exposure controls:

· Personal protective equipment:

- · General protective and hygienic measures:
- The usual precautionary measures for handling chemicals should be followed.
- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing and wash before reuse.

Wash hands before breaks and at the end of work.

- Avoid contact with the eyes.
- Avoid contact with the eyes and skin.
- · Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure, use respiratory protective device that is independent of circulating air.

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· Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Select glove material based on penetration times, rates of diffusion and degradation.

· Material of gloves:

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

· Penetration time of glove material:

The exact break-through time has to be determined and observed by the manufacturer of the protective gloves.

· Eye protection:



Tightly sealed goggles

9 Physical and Chemical Properties

 Information on basic physical and chemical properties · General Information · Appearance: Form: Liquid Color: Black · Odor: Vinegar Not determined. · Odor threshold: · pH-value @ 20 °C (68 °F): < 1 · Change in condition Melting point/Melting range: 100 °C (212 °F) Boiling point/Boiling range: · Flash point: None · Flammability (solid, gaseous): Not applicable. Ignition temperature: Not determined · Decomposition temperature: Not determined. · Auto igniting: Product is not self-igniting. · Danger of explosion: Product does not present an explosion hazard. (Contd. on page 6)



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Trade name: HCI - Hydrochloric Acid 38% · Explosion limits: Lower: Not determined. Upper: Not determined. · Vapor pressure @ 20 °C (68 °F): 23 hPa (17 mm Hg) · Density @ 20 °C (68 °F): 1.057 g/cm3 (8.821 lbs/gal) · Relative density: Not determined. · Vapor density: Not determined. · Evaporation rate: Not determined. · Solubility in / Miscibility with: Water: Fully miscible. · Partition coefficient (n-octanol/water): Not determined. · Viscositv: Dynamic @ 20 °C (68 °F): 2 mPas Kinematic: Not determined. · Solvent content: Organic solvents: 0.0 % Water: 62.0 % · Other information: No further relevant information available.

10 Stability and Reactivity

· Reactivity: No further relevant information available.

- · Chemical stability: Stable under normal conditions.
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- · Possibility of hazardous reactions: No dangerous reactions known.
- **Conditions to avoid:** No further relevant information available.
- · Incompatible materials: No further relevant information available.
- · Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological Information

- · Information on toxicological effects:
- · Acute toxicity:

· LD/LC50 values that are relevant for classification:

7647-01-0	17-01-0 Hydrochloric acid		
Oral	LD50	700 mg/kg (rat)	
		900 mg/kg (rabbit)	
Dermal	LD50	5010 mg/kg (rabbit)	
Inhalative	LC50/4 h	6.41 mg/l (rat)	
		Exposure to the mist and vapor may erode exposed teeth. Causes corrosive action on the mucous membranes.	
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 Primary irritant effect: On the skin: Caustic effect on skin and muc Strong caustic effect on skin ai 	
7647-01-0 Hydrochloric acid	
Irritation of skin Skin Irritation	(rabbit)
• On the eye: Strong caustic effect. Strong irritant with the danger of Corrosive effect. Causes serious eye irritation.	of severe eye injury.
7647-01-0 Hydrochloric acid	
Irritation of eyes Eye Irritation	(rabbit)
esophagus and stomach. The product shows the follow preparations: Harmful Corrosive Irritant	ng caustic effect on mouth and throat and to the danger of perforation of ring dangers according to internally approved calculation methods for rosive effect on mouth and throat and to the danger of perforation of
· Carcinogenic categories:	
· IARC (International Agency f	•
7647-01-0 Hydrochloric acid	3
· NTP (National Toxicology Pr	• ,
	ed.
None of the ingredients are list	

12 Ecological Information

- · Toxicity:
- · Aquatic toxicity:
- 7647-01-0 Hydrochloric acid
- EC50 3.6 mg/l (Bluegill/sunfish)
 - >56 mg/l (daphnia)
- · Persistence and degradability: No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential: No further relevant information available.
- Mobility in soil: No further relevant information available.

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Trade name: HCI - Hydrochloric Acid 38%

- · Additional ecological information:
- · General notes:

Do not allow undiluted product or product that has not been neutralized to reach ground water, water course or sewage system.

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

- · Results of PBT and vPvB assessment:
- · **PBT:** Not applicable.
- · **vPvB:** Not applicable.
- · Other adverse effects: No further relevant information available.

13 Disposal Considerations

· Waste treatment methods:

· Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Observe all federal, state and local environmental regulations when disposing of this material.

- · Uncleaned packagings:
- Recommendation: Disposal must be made according to official regulations.
- · Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport Information

- · UN-Number:
- · DOT, ADR, IMDG, IATA
- · UN proper shipping name:
- DOT
- · ADR
- · IMDG, IATA
- · Transport hazard class(es):
- · DOT



· Class:

· Label:

UN1789 Not Regulated for Transportation Hydrochloric acid solution UN1789 Hydrochloric acid solution HYDROCHLORIC ACID solution

8 Corrosive substances

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Trade name: HCI - Hydrochloric Acid 38%					
· ADR					
· Class: · Label:	8 (C1) Corrosive substances 8				
· IMDG, IATA					
 Class: Label: Packing group: DOT, ADR, IMDG, IATA Environmental hazards: Special precautions for user: Danger code (Kemler): EMS Number: Segregation groups: Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Transport/Additional information: DOT 	8 Corrosive substances 8 <i>II</i> Not applicable. Warning: Corrosive substances 80 F-A,S-B Acids of Not applicable.				
Quantity limitations:	On passenger aircraft/rail: 1 L On cargo aircraft only: 30 L				
• ADR • Excepted quantities (EQ):	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml				
 IMDG Limited quantities (LQ): Excepted quantities (EQ): 	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml				
· UN "Model Regulation":	UN 1789 HYDROCHLORIC ACID SOLUTION, 8, II				

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	ealth and environm uperfund Amendme			for the substance	or mixtur
-	355 (extremely haza		-		
7647-01	0 Hydrochloric acid				
Section	313 (Specific toxic c	hemical listings):			
7647-01	0 Hydrochloric acid				
TSCA (T	oxic Substances Co	ntrol Act):			
All ingree	ients are listed.				
	a Proposition 65:				
	ls known to cause c				
None of	he ingredients are list	ed.			
	ls known to cause r	•	y for females:		
None of	he ingredients are list	ed.			
Chemica	Is known to cause r	eproductive toxicit	y for males:		
None of	he ingredients are list	ed.			
Chemica	ls known to cause d	levelopmental toxi	city:		
None of	he ingredients are list	ed.			
EPA (En	enic categories: vironmental Protect				
	he ingredients are list				
•	eshold Limit Value e	stablished by ACC	GIH):		
	0 Hydrochloric acid				
	a (National Institute	-	Safety and Health)	5	
	he ingredients are list	ed.			
The proc	el elements uct is classified and la ictograms:	abeled according to	the Globally Harmo	nized System (GHS	s).
GHS05	GHS07				
Signal w	ord: Danger				
Hydroch Hazard s Harmful Causes s	letermining compon oric acid tatements: f swallowed or if inhal evere skin burns and te respiratory irritatior	ed. eye damage.			



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Trade name: HCI - Hydrochloric Acid 38% · Precautionary statements: Do not breathe dusts or mists. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Wear eye protection / face protection. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. 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. IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Specific treatment (see supplementary first aid instructions on this Safety Data Sheet). IF INHALED: Remove person to fresh air and keep comfortable for breathing. Wash contaminated clothing before reuse. If swallowed: Rinse mouth. Do NOT induce vomiting. Store locked up. Store in a well-ventilated place. Keep container tightly closed. Dispose of contents/container in accordance with local/regional/national/international regulations. · National regulations: The product is subject to be classified according with the latest version of the regulations on hazardous substances. · State Right to Know: CAS: 7732-18-5 Water, distilled water, deionized water 60-90% CAS: 7647-01-0 Hvdrochloric acid 25-50%

All ingredients are listed. • Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

RTECS: MW 9620000 😔 Skin Corr. 1B, H314; 🚸 Acute Tox. 4, H332; STOT SE 3, H335

16 Other Information

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

· Date of preparation / last revision: 11/01/2015 / 3

Abbreviations and acronyms:

ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways IMDG: International Maritime Code for Dangerous Goods DOT: US Department of Transportation IATA: International Air Transport Association ACGIH: American Conference of Governmental Industrial Hygienists EINECS: European Inventory of Existing Commercial Chemical Substances ELINCS: European List of Notified Chemical Substances CAS: Chemical Abstracts Service (division of the American Chemical Society) NFPA: National Fire Protection Association (USA) HMIS: Hazardous Materials Identification System (USA) LC50: Lethal concentration, 50 percent

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Trade name: HCI - Hydrochloric Acid 38%

LD50: Lethal dose, 50 percent PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative Acute Tox. 4: Acute toxicity, Hazard Category 4 Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1 STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3 • * Data compared to the previous version altered. SDS created by MSDS Authoring Services www.msdsauthoring.com +1-877-204-9106