Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 11/01/2015 Reviewed on 11/01/2015

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1 Identification

· **Product Identifier**

· **Trade name: HCl - Hydrochloric Acid 38%**
· **Product Number:** NGT-HCL38
· **Relevant identified uses of the substance or mixture and uses advised against:**
· **Product Description** Semi Grade Reagent Chemical, HCL 38%

· **Details of the Supplier of the Safety Data Sheet:**
· **Manufacturer/Supplier:**
NuGeneration Technologies, LLC (dba NuGenTec)
1155 Park Avenue, Emeryville, CA 94608
salesteam@nugentec.com www.nugentec.com
1-888-996-8436 or 1-707-820-4080 for product information
· **Emergency telephone number:**
PERS Emergency Response: Domestic and Canada - 1-800-633-8253, International 1-801-629-0667

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2 Hazard(s) Identification

· **Classification of the substance or mixture:**

GHS05 Corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.

GHS07

Acute Tox. 4 H302 Harmful if swallowed.
Acute Tox. 4 H332 Harmful if inhaled.
STOT SE 3 H335 May cause respiratory irritation.

· **Label elements:**
· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms:**

GHS05 GHS07

· **Signal word:** Danger

· **Hazard-determining components of labeling:**
Hydrochloric acid
· **Hazard statements:**
Harmful if swallowed or if inhaled.
Causes severe skin burns and eye damage.
May cause respiratory irritation.

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· **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.
· **Classification system:**
· **NFPA ratings (scale 0 - 4)**

Health = 3
Fire = 0
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

Health = 4
Fire = 0
Reactivity = 0

· **Hazard(s) not otherwise classified (HNOC):** None known

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3 Composition/Information on Ingredients

7732-18-5	Water, distilled water, deionized water	60-90%

· **Chemical characterization: Mixtures**
· **Description:** Mixture of substances listed below with non-hazardous additions.

· **Dangerous Components:**

CAS: 7647-01-0 RTECS: MW 9620000	Hydrochloric acid Skin Corr. 1B, H314; Acute Tox. 4, H332; STOT SE 3, H335	25-50%

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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.

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5 Fire-Fighting Measures

· **Extinguishing media:**
· **Suitable extinguishing agents:**
CO_2, 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.

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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.

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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

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9 Physical and Chemical Properties

· **Information on basic physical and chemical properties**
· **General Information**
· **Appearance:**

Form:	Liquid
Color:	Black
· **Odor:**	Vinegar
· **Odor threshold:**	Not determined.
· **pH-value @ 20 °C (68 °F):**	< 1
· **Change in condition**	
Melting point/Melting range:	--
Boiling point/Boiling range:	100 °C (212 °F)
· **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.

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Trade name: HCl - 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.

· **Viscosity:**
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.

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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.

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11 Toxicological Information

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

· **LD/LC50 values that are relevant for classification:**		
7647-01-0 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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Trade name: HCl - Hydrochloric Acid 38%

· **Primary irritant effect:**
· **On the skin:**
Caustic effect on skin and mucous membranes.
Strong caustic effect on skin and mucous membranes.

7647-01-0 Hydrochloric acid		
Irritation of skin	Skin Irritation	(rabbit)

· **On the eye:**
Strong caustic effect.
Strong irritant with the danger of severe eye injury.
Corrosive effect.
Causes serious eye irritation.

7647-01-0 Hydrochloric acid		
Irritation of eyes	Eye Irritation	(rabbit)

· **Additional toxicological information:**
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful
Corrosive
Irritant
Swallowing will lead to a corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.

· **Carcinogenic categories:**

· **IARC (International Agency for Research on Cancer):**		
7647-01-0	Hydrochloric acid	3

· **NTP (National Toxicology Program):**
None of the ingredients are listed.

· **OSHA-Ca (Occupational Safety & Health Administration):**
None of the ingredients are listed.

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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: HCl - 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.

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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.

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14 Transport Information

· **UN-Number:**
· **DOT, ADR, IMDG, IATA** UN1789
· **UN proper shipping name:** Not Regulated for Transportation
· **DOT** Hydrochloric acid solution
· **ADR** UN1789 Hydrochloric acid solution
· **IMDG, IATA** HYDROCHLORIC ACID solution
· **Transport hazard class(es):**

· **DOT**

· **Class:** 8 Corrosive substances
· **Label:** 8

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· **ADR**

· **Class:**	8 (C1) Corrosive substances
· **Label:**	8

· **IMDG, IATA**

· **Class:**	8 Corrosive substances
· **Label:**	8
· **Packing group:**	
· **DOT, ADR, IMDG, IATA**	II
· **Environmental hazards:**	Not applicable.
· **Special precautions for user:**	Warning: Corrosive substances
· **Danger code (Kemler):**	80
· **EMS Number:**	F-A,S-B
· **Segregation groups:**	Acids
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:**	Not applicable.

· **Transport/Additional information:**

· **DOT**

· **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):**	1L
· **Excepted quantities (EQ):**	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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15 Regulatory Information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture:**
· **SARA (Superfund Amendments and Reauthorization):**

· **Section 355 (extremely hazardous substances):**

7647-01-0	Hydrochloric acid

· **Section 313 (Specific toxic chemical listings):**

7647-01-0	Hydrochloric acid

· **TSCA (Toxic Substances Control Act):**
All ingredients are listed.

· **California Proposition 65:**
· **Chemicals known to cause cancer:**
None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**
None of the ingredients are listed.

· **Carcinogenic categories:**

· **EPA (Environmental Protection Agency):**
None of the ingredients are listed.

· **TLV (Threshold Limit Value established by ACGIH):**

7647-01-0	Hydrochloric acid	A4

· **NIOSH-Ca (National Institute for Occupational Safety and Health):**
None of the ingredients are listed.

· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms:**

GHS05 GHS07

· **Signal word:** Danger

· **Hazard-determining components of labeling:**
Hydrochloric acid
· **Hazard statements:**
Harmful if swallowed or if inhaled.
Causes severe skin burns and eye damage.
May cause respiratory irritation.

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· **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 RTECS: MW 9620000	Hydrochloric acid Skin Corr. 1B, H314; Acute Tox. 4, H332; STOT SE 3, H335	25-50%

All ingredients are listed.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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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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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.**

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