

# Hydrochloric Acid, 0.2N (0.2M)

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 07/03/2013

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Version: 1.0

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
Product name : Hydrochloric Acid, 0.2N (0.2M)  
Product code : C15240

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : For laboratory and manufacturing use only

#### 1.3. Details of the supplier of the safety data sheet

abChem Inc  
Jackson's Pointe Commerce Park Building 1000, 1010 Jackson's Pointe Court  
Zelienople, PA 16063 - USA  
T 412-826-5230 - F 724-473-0647  
[info@labchem.com](mailto:info@labchem.com) - [www.labchem.com](http://www.labchem.com)

#### 1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 or 011-703-527-3887

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

Skin corrosion/irritation Category 1C H314  
Serious eye damage/eye irritation Category 1 H318

Full text of H statements : see section 16

#### 2.2. Label elements

##### GHS-US labeling

Hazard pictograms (GHS-US) :



GHS05

Signal word (GHS-US) : Danger  
Hazard statements (GHS-US) : H314 - Causes severe skin burns and eye damage  
Precautionary statements (GHS-US) : P260 - Do not breathe mist, vapors, spray  
P264 - Wash exposed skin thoroughly after handling  
P280 - Wear protective gloves, eye protection, protective clothing, face protection  
P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting  
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P310 - Immediately call a poison center or doctor/physician  
If inhaled: Remove person to fresh air and keep comfortable for breathing  
P363 - Wash contaminated clothing before reuse  
P405 - Store locked up  
P501 - Dispose of contents/container to comply with local, state and federal regulations

#### 2.3. Other hazards

Other hazards not contributing to the classification : None.

#### 2.4. Unknown acute toxicity (GHS US)

Not applicable

### SECTION 3: Composition/Information on ingredients

#### 3.1. Substance

Not applicable

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### 3.2. Mixture

| Name                       | Product identifier | %     | GHS-US classification                                                                                            |
|----------------------------|--------------------|-------|------------------------------------------------------------------------------------------------------------------|
| Water                      | (CAS No) 7732-18-5 | 99.18 | Not classified                                                                                                   |
| Hydrochloric Acid, 37% w/w | (CAS No) 7647-01-0 | 0.82  | Acute Tox. 4 (Oral), H302<br>Skin Corr. 1B, H314<br>Eye Dam. 1, H318<br>STOT SE 3, H335<br>Aquatic Acute 3, H402 |

Full text of hazard classes and H-statements : see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.
- First-aid measures after skin contact : Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a poison center or doctor/physician.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

### 4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries : Causes severe skin burns and eye damage.
- Symptoms/injuries after inhalation : Possible inflammation of the respiratory tract.
- Symptoms/injuries after skin contact : Caustic burns/corrosion of the skin.
- Symptoms/injuries after eye contact : Causes serious eye damage.
- Symptoms/injuries after ingestion : Nausea. Vomiting. Diarrhoea.
- Chronic symptoms : Affection/discolouration of the teeth.

### 4.3. Indication of any immediate medical attention and special treatment needed

Obtain medical assistance.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

- Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.
- Unsuitable extinguishing media : Do not use a heavy water stream.

### 5.2. Special hazards arising from the substance or mixture

- Fire hazard : Not flammable.
- Explosion hazard : Not applicable.
- Reactivity : Thermal decomposition generates : Corrosive vapors.

### 5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.
- Other information : Not applicable.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Try to stop release. Dike and contain spill.

#### 6.1.1. For non-emergency personnel

- Protective equipment : Gloves. Safety glasses. Protective clothing. Face-shield.
- Emergency procedures : Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

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### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Do not breathe mist, vapors, spray.

Hygiene measures : Wash exposed skin thoroughly after handling. Wash contaminated clothing before reuse.

### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Comply with applicable regulations.

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : incompatible materials. Keep container closed when not in use.

Incompatible products : metals. cyanides. Strong bases.

Incompatible materials : Direct sunlight.

Packaging materials : Do not store in corrodable metal.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

| Hydrochloric Acid, 37% w/w (7647-01-0) |                                         |                        |
|----------------------------------------|-----------------------------------------|------------------------|
| ACGIH                                  | ACGIH Ceiling (mg/m <sup>3</sup> )      | 2.98 mg/m <sup>3</sup> |
| ACGIH                                  | ACGIH Ceiling (ppm)                     | 2 ppm                  |
| OSHA                                   | OSHA PE (Ceiling) (mg/m <sup>3</sup> )  | 7 mg/m <sup>3</sup>    |
| OSHA                                   | OSHA PE (Ceiling) (ppm)                 | 5 ppm                  |
| ID H                                   | US ID H (ppm)                           | 50 ppm                 |
| NIOSH                                  | NIOSH RE (ceiling) (mg/m <sup>3</sup> ) | 7 mg/m <sup>3</sup>    |
| NIOSH                                  | NIOSH RE (ceiling) (ppm)                | 5 ppm                  |
| Water (7732-18-5)                      |                                         |                        |
| Not applicable                         |                                         |                        |

### 8.2. Exposure controls

Appropriate engineering controls : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Personal protective equipment : Avoid all unnecessary exposure.

Hand protection : Wear protective gloves.

Eye protection : Chemical goggles or face shield.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : Wear appropriate mask.

Other information : Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state : liquid

Color : Colorless

Odor : Odorless

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|                                             |                                                              |
|---------------------------------------------|--------------------------------------------------------------|
| Odor threshold                              | : No data available                                          |
| pH                                          | : 0.7                                                        |
| Melting point                               | : No data available                                          |
| Freezing point                              | : No data available                                          |
| Boiling point                               | : No data available                                          |
| Flash point                                 | : No data available                                          |
| Relative evaporation rate (butyl acetate=1) | : No data available                                          |
| Flammability (solid, gas)                   | : Non flammable.                                             |
| Vapor pressure                              | : No data available                                          |
| Relative vapor density at 20 °C             | : No data available                                          |
| Relative density                            | : No data available                                          |
| Specific gravity / density                  | : 1 - 1.1                                                    |
| Molecular mass                              | : 36.46 g/mol                                                |
| Solubility                                  | : Soluble in water. Soluble in ethanol. Soluble in methanol. |
| og Pow                                      | : No data available                                          |
| Auto-ignition temperature                   | : No data available                                          |
| Decomposition temperature                   | : No data available                                          |
| Viscosity, kinematic                        | : No data available                                          |
| Viscosity, dynamic                          | : No data available                                          |
| Explosion limits                            | : No data available                                          |
| Explosive properties                        | : Not applicable.                                            |
| Oxidizing properties                        | : None.                                                      |

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Thermal decomposition generates : Corrosive vapors.

### 10.2. Chemical stability

Stable under normal conditions. Not established.

### 10.3. Possibility of hazardous reactions

Reacts violently with (some) bases: release of heat.

### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

### 10.5. Incompatible materials

metals. cyanides. Strong bases.

### 10.6. Hazardous decomposition products

Hydrogen chloride. Thermal decomposition generates : Corrosive vapors.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

|                          |                        |
|--------------------------|------------------------|
| ikely routes of exposure | : Skin and eye contact |
| Acute toxicity           | : Not classified       |

| Hydrochloric Acid, 37% w/w (7647-01-0) |                            |
|----------------------------------------|----------------------------|
| D50 oral rat                           | 700 mg/kg                  |
| D50 dermal rabbit                      | 5010 mg/kg                 |
| ATE US (oral)                          | 700.000 mg/kg body weight  |
| ATE US (dermal)                        | 5010.000 mg/kg body weight |
| Water (7732-18-5)                      |                            |
| D50 oral rat                           | ≥ 90000 mg/kg              |

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| Water (7732-18-5)                 |                                                                                      |
|-----------------------------------|--------------------------------------------------------------------------------------|
| ATE US (oral)                     | 90000.000 mg/kg body weight                                                          |
| Skin corrosion/irritation         | : Causes severe skin burns and eye damage.<br>pH: 0.7                                |
| Serious eye damage/irritation     | : Causes serious eye damage.<br>pH: 0.7                                              |
| Respiratory or skin sensitization | : Not classified                                                                     |
| Germ cell mutagenicity            | : Not classified                                                                     |
| Carcinogenicity                   | : Not classified<br>Based on available data, the classification criteria are not met |

| Hydrochloric Acid, 37% w/w (7647-01-0)              |                                                                                      |
|-----------------------------------------------------|--------------------------------------------------------------------------------------|
| IARC group                                          | 3 - Not classifiable                                                                 |
| Reproductive toxicity                               | : Not classified<br>Based on available data, the classification criteria are not met |
| Specific target organ toxicity (single exposure)    | : Not classified                                                                     |
| Specific target organ toxicity (repeated exposure)  | : Not classified                                                                     |
| Aspiration hazard                                   | : Not classified                                                                     |
| Potential Adverse human health effects and symptoms | : Based on available data, the classification criteria are not met.                  |
| Symptoms/injuries after inhalation                  | : Possible inflammation of the respiratory tract.                                    |
| Symptoms/injuries after skin contact                | : Caustic burns/corrosion of the skin.                                               |
| Symptoms/injuries after eye contact                 | : Causes serious eye damage.                                                         |
| Symptoms/injuries after ingestion                   | : Nausea. Vomiting. Diarrhoea.                                                       |
| Chronic symptoms                                    | : Affection/dischouration of the teeth.                                              |

## SECTION 12: Ecological information

### 12.1. Toxicity

| Hydrochloric Acid, 37% w/w (7647-01-0) |                        |
|----------------------------------------|------------------------|
| C50 fish 1                             | 282 mg/l ( C50; 96 h)  |
| EC50 Daphnia 1                         | < 56 mg/l (EC50; 72 h) |

### 12.2. Persistence and degradability

| Hydrochloric Acid, 0.2N (0.2M)         |                                                                                         |
|----------------------------------------|-----------------------------------------------------------------------------------------|
| Persistence and degradability          | Not established.                                                                        |
| Hydrochloric Acid, 37% w/w (7647-01-0) |                                                                                         |
| Persistence and degradability          | Biodegradability: not applicable. No test data on mobility of the components available. |
| Biochemical oxygen demand (BOD)        | Not applicable                                                                          |
| Chemical oxygen demand (COD)           | Not applicable                                                                          |
| ThOD                                   | Not applicable                                                                          |
| Water (7732-18-5)                      |                                                                                         |
| Persistence and degradability          | Not established.                                                                        |

### 12.3. Bioaccumulative potential

| Hydrochloric Acid, 0.2N (0.2M)         |                                                 |
|----------------------------------------|-------------------------------------------------|
| Bioaccumulative potential              | Not established.                                |
| Hydrochloric Acid, 37% w/w (7647-01-0) |                                                 |
| og Pow                                 | 0.25 (QSAR)                                     |
| Bioaccumulative potential              | ow potential for bioaccumulation ( og Kow < 4). |
| Water (7732-18-5)                      |                                                 |
| Bioaccumulative potential              | Not established.                                |

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### 12.4. Mobility in soil

#### Hydrochloric Acid, 37% w/w (7647-01-0)

Ecology - soil

May be harmful to plant growth, blooming and fruit formation.

### 12.5. Other adverse effects

Effect on the global warming : No known effects from this product.

GWPmix comment : No known effects from this product.

Other information : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials : Avoid release to the environment.

## SECTION 14: Transport information

### Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN1789 Hydrochloric acid, 8, III

UN-No.(DOT) : UN1789

Proper Shipping Name (DOT) : Hydrochloric acid

Transport hazard class(es) (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136

Packing group (DOT) : III - Minor Danger

Hazard labels (DOT) : 8 - Corrosive



DOT Packaging Non Bulk (49 CFR 173.xxx) : 203

DOT Packaging Bulk (49 CFR 173.xxx) : 241

DOT Special Provisions (49 CFR 172.102) : A3 - For combination packaging, if glass inner packaging (including ampoules) are used, they must be packed with absorbent material in tightly closed metal receptacles before packing in outer packaging

IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672)

T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3)

TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling =  $97 / 1 + a (tr - tf)$  Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling

TP12 - This material is considered highly corrosive to steel

DOT Packaging Exceptions (49 CFR 173.xxx) : 154

DOT Quantity limitations Passenger aircraft/rail (49 CFR 173.27) : 5

DOT Quantity limitations Cargo aircraft only (49 CFR 175.75) : 60

DOT Vessel Stowage location : C - The material must be stowed "on deck only" on a cargo vessel and on a passenger vessel

DOT Vessel Stowage Other : 8 - Glass carboys not permitted on passenger vessels

Other information : No supplementary information available.

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### TDG

### Transport by sea

### Air transport

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### Hydrochloric Acid, 0.2N (0.2M)

|                                     |                                 |
|-------------------------------------|---------------------------------|
| SARA Section 311/312 Hazard Classes | Immediate (acute) health hazard |
|-------------------------------------|---------------------------------|

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

|                            |                  |       |
|----------------------------|------------------|-------|
| Hydrochloric Acid, 37% w/w | CAS No 7647-01-0 | 0.82% |
|----------------------------|------------------|-------|

#### Hydrochloric Acid, 37% w/w (7647-01-0)

|                                                              |                                                                                       |
|--------------------------------------------------------------|---------------------------------------------------------------------------------------|
| EPA TSCA Regulatory Flag                                     | T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA |
| RQ (Reportable quantity, section 304 of EPA's list of lists) | 5000 lb                                                                               |
| SARA Section 302 Threshold Planning Quantity (TPQ)           | 500 lb                                                                                |
| SARA Section 311/312 Hazard Classes                          | Immediate (acute) health hazard                                                       |

### 15.2. International regulations

#### CANADA

#### Hydrochloric Acid, 0.2N (0.2M)

|                      |                              |
|----------------------|------------------------------|
| WHMIS Classification | Class E - Corrosive Material |
|----------------------|------------------------------|

#### Hydrochloric Acid, 37% w/w (7647-01-0)

|                      |                              |
|----------------------|------------------------------|
| WHMIS Classification | Class E - Corrosive Material |
|----------------------|------------------------------|

#### Water (7732-18-5)

|                      |                                                                 |
|----------------------|-----------------------------------------------------------------|
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |
|----------------------|-----------------------------------------------------------------|

### EU-Regulations

No additional information available

### National regulations

No additional information available

### 15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

## SECTION 16: Other information

Revision date : 06/07/2016

Other information : None.

Full text of H-phrases: see section 16:

|      |                                         |
|------|-----------------------------------------|
| H302 | Harmful if swallowed                    |
| H314 | Causes severe skin burns and eye damage |
| H318 | Causes serious eye damage               |
| H335 | May cause respiratory irritation        |
| H402 | Harmful to aquatic life                 |

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### NFPA health hazard

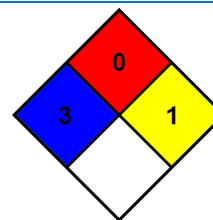
: 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.

### NFPA fire hazard

: 0 - Materials that will not burn.

### NFPA reactivity

: 1 - Normally stable, but can become unstable at elevated temperatures and pressures or may react with water with some release of energy, but not violently.



### HMIS III Rating

#### Health

: 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

#### Flammability

: 0 Minimal Hazard - Materials that will not burn

#### Physical

: 1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.

### Personal Protection

: C

C - Safety glasses, Gloves, Synthetic apron

SDS US abChem

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