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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name : Buffer concentrate pH 1.00

SDS-number : 000000021850

Type of product : Mixture

Remarks : SDS according to Art. 31 of Regulation (EC) 1907/2006.

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

Use of the : Laboratory chemicals

Substance/Mixture

Uses advised against : none

1.3. Details of the supplier of the safety data sheet

Company : Honeywell International Inc. Honeywell International, Inc.

115 Tabor Road 115 Tabor Road

07950-2546 Morris Plains Morris Plains, NJ 07950-2546

USA USA

Telephone

For further information, : SafetyDataSheet@Honeywell.com

please contact:

1.4. Emergency telephone number

Emergency telephone : +1-703-527-3887 (ChemTrec-Transport)

number +1-303-389-1414 (Medical)

Country based Poison

Control Center

: see chapter 15.1

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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Corrosive to metals Category 1 H290 May be corrosive to metals.

2.2. Label elements

REGULATION (EC) No 1272/2008

Hazard pictograms

Signal word : Warning

Hazard statements : H290 May be corrosive to metals.

Precautionary statements : P234 Keep only in original container.

P280 Wear protective gloves/ eye protection/

face protection.

2.3. Other hazards

This product is a mixture. Health hazard information is based on its components.

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

| Chemical name | CAS-No. Index-No. REACH Registration Number EC-No. | Classification 1272/2008 | Concentration | Remarks |
|-------------------|--|---|---------------|---|
| hydrochloric acid | 7647-01-0 017-002-01-X 231-595-7 | Skin Corr. 1B; H314 STOT SE 3; H335; Respiratory system | < 5 % | |
| | | | | STOT SE 3; H335:>= 10 % Skin Irrit. 2; H315:10 - < 25 % Eye Irrit. 2; H319:10 - < 25 % |

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| | | | Skin Corr. 1B; H314:>= 25 % |
|--------------------|-----------|-------|-----------------------------|
| Potassium chloride | 7447-40-7 | < 5 % | N.C.* |
| | 231-211-8 | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

N.C.* - Non-hazardous substance - for information only

Remaining components of this product are non-hazardous and/or are present at concentrations below reportable limits.

Occupational Exposure Limit(s), if available, are listed in Section 8. For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice:

First aider needs to protect himself. Move out of dangerous area. Take off all contaminated clothing immediately.

Inhalation:

If breathed in, move person into fresh air. If symptoms persist, call a physician.

Skin contact:

After contact with skin, wash immediately with plenty of water. If symptoms persist, call a physician.

Eye contact:

Rinse thoroughly with plenty of water, also under the eyelids. Protect unharmed eye. If eye irritation persists, consult a specialist.

Ingestion:

When swallowed, allow water to be drunk. Rinse mouth. Consult a physician.

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

No data available

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

Treat symptomatically.

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See Section 11 for more detailed information on health effects and symptoms.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Water spray

Foam

Dry powder

Carbon dioxide (CO2)

Extinguishing media which shall not be used for safety reasons:

High volume water jet

5.2. Special hazards arising from the substance or mixture

Fire may cause evolution of: Hydrogen chloride gas Chlorine compounds

Potassium oxide

5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.

Do not use a solid water stream as it may scatter and spread fire. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protective equipment. Unprotected persons must be kept away. Provide adequate ventilation.

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.

6.3. Methods and materials for containment and cleaning up

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Soak up with inert absorbent material.

Pick for disposal in tightly closed containers

6.4. Reference to other sections

For personal protection see section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling:

Wear personal protective equipment. Handle in accordance with good industrial hygiene and safety practice.

Advice on protection against fire and explosion:

Normal measures for preventive fire protection.

Hygiene measures:

General industrial hygiene practice.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers:

Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place.

7.3. Specific end use(s)

no additional data available

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits:

| Components | Basis / Value type | Value / Form of exposure | Exceeding Factor | Remarks |
|-------------------|-----------------------|---|------------------|------------|
| hydrochloric acid | EH40 WEL STEL | 8 mg/m3 5 ppm Gas and aerosol mists. | | |
| hydrochloric acid | EH40 WEL TWA | 2 mg/m3 1 ppm Gas and aerosol mists. | | |
| hydrochloric acid | EH40 WEL | Gas and aerosol mists. | | Listed |
| hydrochloric acid | EU ELV TWA | 8 mg/m3 5 ppm | | Indicative |
| hydrochloric acid | EU ELV STEL | 15 mg/m3 10 ppm | | Indicative |

STEL - Short term exposure limit TWA - Time weighted average

DNEL/ PNEC-Values

| DNEL/ I NEO-Values | | | | | |
|--------------------|---|-------------------|----------|-----------------|---------|
| Component | End- use/impact | Exposure duration | Value | Exposure routes | Remarks |
| hydrochloric acid | Workers / Acute local effects | | 15 mg/m3 | Inhalation | |
| hydrochloric acid | Workers / Long-term local effects | | 8 mg/m3 | Inhalation | |
| hydrochloric acid | Consumers / Acute local effects | | 15 mg/m3 | Inhalation | |

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| hydrochloric acid | Consumers / Long-term local effects | 8 mg/m3 | Inhalation | |
|--------------------|---|------------------|------------|--|
| Potassium chloride | Workers / Long-term systemic effects | 1064 mg/m3 | Inhalation | |
| Potassium chloride | Workers / Acute systemic effects | 5320 mg/m3 | Inhalation | |
| Potassium chloride | Workers / Long-term systemic effects | 303mg/kg bw/d | Dermal | |
| Potassium chloride | Workers / Acute systemic effects | 910mg/kg bw/d | Dermal | |
| Potassium chloride | Consumers / Long-term systemic effects | 273 mg/m3 | Inhalation | |
| Potassium chloride | Consumers / Acute systemic effects | 1365 mg/m3 | Inhalation | |
| Potassium chloride | Consumers / Long-term systemic effects | 182mg/kg bw/d | Dermal | |
| Potassium chloride | Consumers / Acute systemic effects | 910mg/kg bw/d | Dermal | |
| Potassium chloride | Consumers / Long-term systemic effects | 91mg/kg bw/d | Ingestion | |
| Potassium chloride | Consumers / Long-term systemic effects | 455mg/kg bw/d | Ingestion | |

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| Component | Environmental compartment / Value | Remarks |
|--------------------|--------------------------------------|---------|
| Potassium chloride | Fresh water: 0,1 mg/l | |
| Potassium chloride | Marine water: 0,1 mg/l | |
| Potassium chloride | Sewage treatment plant: 10 mg/l | |

8.2. Exposure controls

Occupational exposure controls

The Personal Protective Equipment must be in accordance with EN standards:respirator EN 136, 140, 149; safety glasses EN 166; protective suit: EN 340, 463, 468, 943-1, 943-2; gloves EN 374, 511; safety shoes EN-ISO 20345.

Personal protective equipment

Respiratory protection:

In the case of vapour formation use a respirator with an approved filter.

Hand protection:

Glove material: Natural Latex Break through time: 480 min Glove thickness: 0,6 mm

Lapren®706

Gloves must be inspected prior to use.

Replace when worn.

Remarks: Supplementary note: The specifications are based on information and tests from similar substances by analogy.

Due to varying conditions (e.g.temperature or other strains) it must be considered that the usage of a chemical protective glove in practice may be much shorter than the permeation time determined in accordance with EN 374.

Since actual conditions of practical use often deviate from standardised conditions according EN 374 the glove manufacturer recomends to use the chemical protective glove in practice not longer than 50% of the recomended permeation time.

Manufacturer's directions for use should be observed because of great diversity of types . Suitable gloves tested according EN 374 are supplied e.g. from KCL GmbH, D-36124 Eichenzell, Vertrieb@kcl.de

Eye protection:

Safety glasses with side-shields

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Skin and body protection:

Protective suit

Environmental exposure controls

Handle in accordance with local environmental regulations and good industrial practices.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : liquid

Colour : No data available

Odour : No data available

Melting point/range : No data available

Boiling point/boiling range : No data available

Flammability : No data available

Upper explosion limit : No data available

Lower explosion limit : No data available

Flash point : Not applicable

Auto-ignition temperature : No data available

Decomposition temperature : Stable under recommended storage conditions.

pH : 1

Viscosity, kinematic : No data available

Water solubility : completely miscible

Vapour pressure : No data available

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Density : No data available

Relative vapour density : No data available

9.2 Other Information

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Corrosive to metals : Corrosive to metals

Evaporation rate : No data available

Viscosity, dynamic : No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under recommended storage conditions.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

Strong bases

10.6. Hazardous decomposition products

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No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity:

No data available

Acute dermal toxicity:

No data available

Acute inhalation toxicity:

No data available

Skin irritation:

No data available

Eye irritation:

No data available

Respiratory or skin sensitisation:

No data available

Carcinogenicity:

Note: No data available

Germ cell mutagenicity: Note: No data available

Reproductive toxicity:

Remarks: No data available

Aspiration hazard:

No data available

11.2. Information on other hazards

Endocrine disrupting properties

No data available

Other information:

No data available

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SECTION 12: Ecological information

12.1. Toxicity

Toxicity to fish: No data available

Toxicity to aquatic plants:

No data available

Toxicity to aquatic invertebrates:

No data available

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

No data available

12.6. Endocrine disrupting properties

No data available

12.7. Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product:

Dispose according to legal requirements.

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Packaging:

Legal requirements are to be considered in regard of reuse or disposal of used packaging materials

Further information:

Provisions relating to waste:

EC Directive 2006/12/EC; 2008/98/EEC

Regulation No. 1013/2006

For personal protection see section 8.

SECTION 14: Transport information

14.1 UN number

ADR/RID:1789 IMDG:1789 IATA:1789

14.2 UN proper shipping name

ADR/RID:HYDROCHLORIC ACID SOLUTION IMDG:HYDROCHLORIC ACID SOLUTION IATA:Hydrochloric acid solution

14.3 Transport hazard class(es)

ADR/RID: 8 IMDG: 8 IATA: 8

14.4 Packaging group

ADR/RID: III IMDG: III IATA: III

14.5 Environmental hazards

ADR/RID:no Marine pollutant: no

14.6 Special precautions for user

IMDG Code segregation group (SGG1) - ACIDS,

14.7 Maritime transport in bulk according to IMO instruments

No data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Poison Control Center

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| Country | Phone Number |
|----------------|------------------------------|
| Austria | +4314064343 |
| Belgium | 070 245245 |
| Bulgaria | (+)35929154233 |
| Croatia | (+3851)23-48-342 |
| Cyprus | +357 2240 5611 |
| Czech Republic | +420224919293; +420224915402 |
| Denmark | 82121212 |
| Estonia | 16662; (+372)6269390 |
| Finland | 9471977 |
| France | +33(0)145425959 |
| Greece | +30 210 779 3777 |
| Hungary | (+36-80)201-199 |
| Iceland | 5432222 |
| Ireland | +353(1)8092166 |
| Italy | 0382 24444 |
| | Berlin : 030/19240 |
| | Bonn : 0228/19240 |
| | Erfurt : 0361/730730 |
| Germany | Freiburg : 0761/19240 |
| 23 | Göttingen : 0551/19240 |
| | Homburg : 06841/19240 |
| | Mainz : 06131/19240 |
| | Munich : 089/19240 |
| Latvia | +37167042473 |

| Country | Phone Number |
|-----------------|---|
| Liechtenstein | +41 442515151 |
| Lithuania | +370532362052 |
| Luxembourg | 070245245; (+352)80002-5500 |
| Malta | +356 2395 2000 |
| Netherlands | 030-2748888 |
| Norway | 22591300 |
| Poland | +48 42 25 38 400 |
| Portugal | 800250250 |
| Romania | +40 21 318 3606 |
| Slovakia (NTIC) | +421 2 54 774 166 |
| Slovenia | +386 1 400 6051 |
| Spain | +34915620420 |
| Sweden | 112 (begär Giftinformation);+46104566786 |
| Switzerland | 145 |
| United Kingdom | (+44) 844 892 0111 |

Other inventory information

US. Toxic Substances Control Act On TSCA Inventory

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Australia. Inventory of Industrial Chemicals (AIIC), as amended On the inventory, or in compliance with the inventory

Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL) All components of this product are on the Canadian DSL

Japan. Kashin-Hou Law List

On the inventory, or in compliance with the inventory

Korea. Existing Chemicals Inventory (KECI)

On the inventory, or in compliance with the inventory

Philippines. Inventory of Chemicals and Chemical Substances (PICCS)

On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances (IECSC)

On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand On the inventory, or in compliance with the inventory

Taiwan Chemical Substance Inventory (TCSI)

On the inventory, or in compliance with the inventory

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Text of H-statements referred to under heading 3

hydrochloric acid : H314 Causes severe skin burns and eye damage.

H335 May cause respiratory irritation.

Further information

All directives and regulations refer to amended versions.

Vertical lines in the left hand margin indicate a relevant amendment from the previous version.

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Abbreviations:

EC European Community
CAS Chemical Abstracts Service
DNEL Derived no effect level
PNEC Predicted no effect level
vPvB Very persistent and very biaccumulative substance

PBT Persistent, bioaccmulative und toxic substance

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Final determination of suitability of any material is the sole responsibility of the user.

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