

## Ammonia buffer solution

33582-1L

Version 1.3

Revision Date 16.12.2022

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

#### 1.1. Product identifier

Product name : Ammonia buffer solution  
SDS-number : 000000021953  
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 Substance/Mixture : Laboratory chemicals  
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, please contact: : SafetyDataSheet@Honeywell.com

#### 1.4. Emergency telephone number

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

REGULATION (EC) No 1272/2008

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Skin corrosion Category 1B  
H314 Causes severe skin burns and eye damage.  
Specific target organ toxicity - single exposure Category 3 - Respiratory system  
H335 May cause respiratory irritation.  
Long-term (chronic) aquatic hazard Category 3  
H412 Harmful to aquatic life with long lasting effects.

### 2.2. Label elements

#### REGULATION (EC) No 1272/2008

Hazard pictograms	:	
Signal word	:	Danger
Hazard statements	:	H314 Causes severe skin burns and eye damage. H335 May cause respiratory irritation. H412 Harmful to aquatic life with long lasting effects.
Precautionary statements	:	P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. P280 Wear protective gloves/protective clothing/eye protection/face protection. P284 Wear respiratory protection. P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P302 + P352 IF ON SKIN: Wash with plenty of water. P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308 + P313 IF exposed or concerned: Get medical advice/ attention.
Hazardous components	:	Ammonia, aqueous solution

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which must be listed on the  
label

### 2.3. Other hazards

None known.

## 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
Ammonium chloride	12125-02-9 017-014-00-8 235-186-4	Acute Tox. 4; H302; Oral Eye Irrit. 2; H319	< 10 %	
Ammonia, aqueous solution	1336-21-6 007-001-01-2 215-647-6	Skin Corr. 1B; H314 STOT SE 3; H335; Respiratory system Aquatic Acute 1; H400 Aquatic Chronic 2; H411	>= 5 % - < 10 %	STOT SE 3; H335: >= 5 %

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. Immediately take off contaminated clothing and rinse body with plenty of water.

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*Inhalation:*

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Use oxygen as required, provided a qualified operator is present. Call a physician immediately.

*Skin contact:*

Wash off immediately with soap and plenty of water. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Call a physician immediately.

*Eye contact:*

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Protect unharmed eye. Call a physician immediately.

*Ingestion:*

A person suspected to have swallowed the substance who is conscious should be given water to drink. Take to a doctor immediately together with this card Do NOT induce vomiting.

#### 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

Inhaled corrosive substances can lead to a toxic oedema of the lungs. Treat symptomatically.

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

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### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

*Suitable extinguishing media:*

Water spray  
Foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry powder

*Extinguishing media which shall not be used for safety reasons:*

High volume water jet

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

Ammonia gas may be liberated at high temperatures.  
In case of fire hazardous decomposition products may be produced such as:  
Nitrogen oxides (NO<sub>x</sub>)  
Chlorine compounds

#### 5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit.  
No unprotected exposed skin areas.  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Do not use a solid water stream as it may scatter and spread fire.

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### SECTION 6: Accidental release measures

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

Wear personal protective equipment. Immediately evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Do not breathe vapours or spray mist. Do not get in eyes, on skin, or on clothing.

#### 6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Discharge into the environment must be avoided. Do not flush into surface water or sanitary sewer system. Do not allow run-off from fire fighting to enter drains or water courses.

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

Soak up with inert absorbent material.  
Pick for disposal in tightly closed containers  
Personal protection through wearing a tightly closed chemical protection suit and a self-contained breathing apparatus.

### 6.4. Reference to other sections

For personal protection see section 8.

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## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

*Advice on safe handling:*

Exhaust ventilation at the object is necessary. Use only alkali-proof equipment.

*Advice on protection against fire and explosion:*

Keep away from sources of ignition - No smoking. The product itself does not burn.

*Hygiene measures:*

When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product. Keep working clothes separately. Remove and wash contaminated clothing before re-use. Do not breathe vapours or spray mist. Do not get in eyes, on skin, or on clothing.

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

*Further information on storage conditions:*

Store in original container. Keep 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
Ammonium chloride	EH40 OES TWA	10 mg/m3 Fume.		
Ammonium chloride	EH40 OES STEL	20 mg/m3 Fume.		
Ammonium chloride	EH40 WEL STEL	20 mg/m3 Fume.		
Ammonium chloride	EH40 WEL TWA	10 mg/m3 Fume.		
Ammonium chloride	EH40 WEL	Fume.		Listed
Ammonia, aqueous solution	EH40 OES TWA	18 mg/m3 25 ppm		
Ammonia, aqueous solution	EH40 OES STEL	25 mg/m3 35 ppm		
Ammonia, aqueous solution	EH40 WEL STEL	25 mg/m3 35 ppm		
Ammonia, aqueous solution	EH40 WEL TWA	18 mg/m3 25 ppm		
Ammonia, aqueous solution	EU ELV TWA	14 mg/m3 20 ppm		Indicative
Ammonia, aqueous solution	EU ELV STEL	36 mg/m3 50 ppm		Indicative

TWA - Time weighted average

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STEL - Short term exposure limit

### DNEL/ PNEC-Values

Component	End-use/impact	Exposure duration	Value	Exposure routes	Remarks
Ammonium chloride	Workers / Long-term systemic effects		44 mg/m <sup>3</sup>	Inhalation	
Ammonium chloride	Workers / Long-term systemic effects		129 mg/kg	Skin contact	
Ammonium chloride	Consumers / Long-term systemic effects		9,4 mg/m <sup>3</sup>	Inhalation	
Ammonium chloride	Consumers / Long-term systemic effects		55,2 mg/kg	Skin contact	
Ammonium chloride	Consumers / Long-term systemic effects		55,2 mg/kg	Ingestion	
Ammonia, aqueous solution	Workers / Acute systemic effects		6,8mg/kg bw/d	Skin contact	
Ammonia, aqueous solution	Workers / Acute systemic effects		47,6 mg/m <sup>3</sup>	Inhalation	
Ammonia, aqueous solution	Workers / Long-term systemic effects		47,6 mg/m <sup>3</sup>	Inhalation	
Ammonia, aqueous solution	Workers / Acute local effects		36 mg/m <sup>3</sup>	Inhalation	
Ammonia, aqueous solution	Workers / Long-term		14 mg/m <sup>3</sup>	Inhalation	



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	local effects				
Ammonia, aqueous solution	Workers / Long-term systemic effects		6,8mg/kg bw/d	Skin contact	

Component	Environmental compartment / Value	Remarks
Ammonium chloride	Fresh water: 0,25 mg/l	
Ammonium chloride	Marine water: 0,025 mg/l	
Ammonium chloride	Sewage treatment plant: 13,1 mg/l	
Ammonium chloride	Soil: 50,7 mg/kg	
Ammonium chloride	Fresh water sediment: 0,9 mg/kg	
Ammonium chloride	Marine sediment: 0,09 mg/kg	
Ammonia, aqueous solution	Fresh water: 0,0011 mg/l	
Ammonia, aqueous solution	Marine water: 0,0011 mg/l	

### 8.2. Exposure controls

#### Occupational exposure controls

Do not breathe vapours or spray mist.

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.

#### Engineering measures

Use with local exhaust ventilation.

#### Personal protective equipment

*Respiratory protection:*

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

*Hand protection:*

Glove material: Viton®

Break through time: > 480 min

Glove thickness: 0,7 mm

Vitoject® 890

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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 recommends to use the chemical protective glove in practice not longer than 50% of the recommended 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 goggles

*Skin and body protection:*

Protective suit

### Environmental exposure controls

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

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## SECTION 9: Physical and chemical properties

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

Physical state	:	liquid
Colour	:	colourless
Odour	:	No data available
Boiling point/boiling range	:	100 °C at 1,013 hPa
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Flash point	:	Not applicable

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Auto-ignition temperature	:	No data available
Decomposition temperature	:	No decomposition if used as directed.
pH	:	10 at 20 °C
Viscosity, kinematic	:	No data available
Water solubility	:	completely miscible
Partition coefficient: n-octanol/water	:	No data available
Vapour pressure	:	No data available
Density	:	No data available
Relative vapour density	:	No data available

### 9.2 Other Information

Evaporation rate	:	No data available
Viscosity, dynamic	:	No data available

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## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Stable under recommended storage conditions.

### 10.2. Chemical stability

No decomposition if used as directed.

### 10.3. Possibility of hazardous reactions

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Hazardous polymerisation does not occur.

### 10.4. Conditions to avoid

Keep away from heat and sources of ignition.

### 10.5. Incompatible materials

Acids  
Halogens

### 10.6. Hazardous decomposition products

Ammonia

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## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

*Acute oral toxicity:*

Acute toxicity estimate

Value: > 2.000 mg/kg

Method: Calculation method

*Acute dermal toxicity:*

No data available

*Acute inhalation toxicity:*

No data available

*Skin irritation:*

Classification based on Annex VI of regulation 1272/2008/EC.

*Eye irritation:*

Classification based on Annex VI of regulation 1272/2008/EC.

*Respiratory or skin sensitisation:*

No data available

*Carcinogenicity:*

Note: No data available

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*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

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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.

*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:2672

IMDG:2672

IATA:2672

### 14.2 UN proper shipping name

ADR/RID:AMMONIA SOLUTION

IMDG:AMMONIA SOLUTION

IATA:Ammonia 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

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ADR/RID: no

Marine pollutant: no

### 14.6 Special precautions for user

IMDG Code segregation group (SGG18) – ALKALIS,

### 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

Basis	Value	Remarks
Directive 2012/18/EC		Not applicable
Substances of very high concern (SVHC)		This product does not contain substances of very high concern according to Regulation (EC) No Article 57 above the respective regulatory 1907/2006 (REACH), concentration limit of $\geq 0.1$ % (w/w).

### Poison Control Center

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

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

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France	+33(0)145425959
Greece	+30 210 779 3777
Hungary	(+36-80)201-199
Iceland	5432222
Ireland	+353(1)8092166
Italy	0382 24444
Germany	Berlin : 030/19240
	Bonn : 0228/19240
	Erfurt : 0361/730730
	Freiburg : 0761/19240
	Göttingen : 0551/19240
	Homburg : 06841/19240
	Mainz : 06131/19240
Munich : 089/19240	
Latvia	+37167042473

Slovakia (NTIC)	+421 2 54 774 166
Slovenia	+386 1 400 6051
Spain	+34915620420
Sweden	112 (begär Gifftinformation);+46104566786
Switzerland	145
United Kingdom	(+44) 844 892 0111

### Other inventory information

US. Toxic Substances Control Act  
On TSCA Inventory

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



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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.

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## SECTION 16: Other information

### Text of H-statements referred to under heading 3

Ammonium chloride	:	H302	Harmful if swallowed.
		H319	Causes serious eye irritation.
Ammonia, aqueous solution	:	H314	Causes severe skin burns and eye damage.
		H335	May cause respiratory irritation.
		H400	Very toxic to aquatic life.
		H411	Toxic to aquatic life with long lasting effects.

### 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.

#### Abbreviations:

EC European Community  
CAS Chemical Abstracts Service  
DNEL Derived no effect level  
PNEC Predicted no effect level  
vPvB Very persistent and very bioaccumulative substance  
PBT Persistent, bioaccumulative und toxic substance

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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.

This information should not constitute a guarantee for any specific product properties.

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