

# OTTO CHEMIE PVT LTD

An ISO 9001 : 2015 & GMP Certified Company  
101, Aarkay Ruby Industrial Estate (1B), Opp Shree Narayan Industrial Estate,  
Chinchpada, Vasai East, Waliv, Maharashtra 401208. Tel : + 91 98200 41841  
Email : [info@ottokemi.com](mailto:info@ottokemi.com) Web : [www.ottokemi.com](http://www.ottokemi.com)

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## MATERIAL SAFETY DATA SHEET (MSDS)

### SECTION 1. Product identifiers

Product name: Ammonia buffer solution

Product Code: A 2022

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

Use : Industrial. For professional use only.

1.3. Details of the supplier of the safety data sheet

Company identification

OTTO CHEMIE PVT LTD

101, Aarkay Ruby Industrial Estate(1B), Opp Shree Narayan Industrial Estate,  
Chinchpada, Vasai East, Waliv, Maharashtra 401208.

Email [info@ottokemi.com](mailto:info@ottokemi.com)

1.4. Emergency telephone number

Phone no. : + 91 22 2207 0099 (9:00am - 6:00 pm)

### SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Skin corrosion (Sub-category 1B), H314

Serious eye damage (Category 1), H318

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

Short-term (acute) aquatic hazard (Category 1), H400

Long-term (chronic) aquatic hazard (Category 3), H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram

Signal Word Danger

Hazard statement(s)

H314 Causes severe skin burns and eye damage.

H335 May cause respiratory irritation.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

P271 Use only outdoors or in a well-ventilated area.

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard

Statements

none

Reduced Labeling (<= 125 ml)

Pictogram

Signal Word Danger

Hazard statement(s)

H314 Causes severe skin burns and eye damage.

Precautionary statement(s)

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.

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Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard Statements

none

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

Component	Classification	Concentration
ammonia solution	Skin Corr. 1B; Eye Dam. 1; STOT SE 3; Aquatic Acute 1; Aquatic Chronic 2; H314, H318, H335, H400, H411 Concentration limits: >= 5 %: STOT SE 3, H335; M-Factor - Aquatic Acute: 10	>= 5 - < 10 %
N.A		
ammonium chloride	Acute Tox. 4; Eye Irrit. 2; H302, H319	>= 1 - < 10 %

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 aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Call in physician.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist.

Remove contact lenses.

If swallowed

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

No data available

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

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

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Nitrogen oxides (NOx)  
Hydrogen chloride gas  
Not combustible.  
Ammonia solution itself is not flammable, but can form an ignitable ammonia/air-mixture by outgassing.  
Fire may cause evolution of:  
nitrogen oxides  
Ambient fire may liberate hazardous vapours.  
5.3 Advice for firefighters  
Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.  
5.4 Further information  
Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

## SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures  
Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.  
For personal protection see section 8.  
6.2 Environmental precautions  
Do not let product enter drains.  
6.3 Methods and materials for containment and cleaning up  
Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent and neutralising material (e.g. Chemizorb® OH<sup>-</sup>, Merck Art. No. 101596). Dispose of properly. Clean up affected area.  
6.4 Reference to other sections  
For disposal see section 13.

## SECTION 7: Handling and storage

7.1 Precautions for safe handling  
For precautions see section 2.2.  
7.2 Conditions for safe storage, including any incompatibilities  
Storage conditions  
Tightly closed.  
Recommended storage temperature see product label.  
Storage class  
Storage class (TRGS 510): 8B: Non-combustible, corrosive hazardous materials  
7.3 Specific end use(s)  
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## SECTION 8: Exposure controls/personal protection

8.1 Control parameters  
Ingredients with workplace control parameters  
8.2 Exposure controls  
Personal protective equipment  
Eye/face protection  
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles  
Skin protection  
This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).  
Full contact  
Material: Nitrile rubber  
Minimum layer thickness: 0,11 mm  
Break through time: > 480 min

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Material tested:KCL 741 Dermatril® L

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Splash contact

Material: Latex gloves

Minimum layer thickness: 0,6 mm

Break through time: > 30 min

Body Protection

protective clothing

Respiratory protection

Recommended Filter type: Filter type K

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

Control of environmental exposure

Do not let product enter drains.

## SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Physical state

Liquid

b) Color

Colorless

c) Odor

ammoniacal

d) Melting

No data available

point/freezing point

e) Initial boiling point

No data available

and boiling range

f) Flammability (solid, gas)

No data available

g) Upper/lower

flammability or

explosive limits

No data available

h) Flash point

Not applicable

i) Autoignition

temperature

Not applicable

j) Decomposition

temperature

No data available

k) pH 10,5 at 20 °C

l) Viscosity Viscosity, kinematic:

No data available

Viscosity, dynamic:

No data available

m) Water solubility at 20 °C

Soluble

n) Partition coefficient:

n-octanol/water

No data available

o) Vapor pressure

No data available

p) Density

0,978 g/cm<sup>3</sup> at 20 °C

Relative density

No data available

q) Relative vapor

density

No data available

r) Particle

characteristics

No data available

s) Explosive properties

Not classified as explosive.

t) Oxidizing properties

None

9.2 Other safety information

No data available

## SECTION 10: Stability and reactivity

10.1 Reactivity

See section 10.3

10.2 Chemical stability

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The product is chemically stable under standard ambient conditions (room temperature) .

## 10.3 Possibility of hazardous reactions

A risk of explosion and/or of toxic gas formation exists with the following substances:

Oxidizing agents

Mercury

Oxygen

silver compounds

nitrogen trichloride

hydrogen peroxide

silver

antimony hydride

Halogens

Acids

Calcium

Chlorites

auric salts

perchlorates

sodium hypochlorite

mercury compounds

halogen oxides

Heavy metals

Heavy metal salts

Acid chlorides

Acid anhydrides

Risk of ignition or formation of inflammable gases or vapours with:

Boranes

Boron

Oxides of phosphorus

Nitric acid

silicon compounds

chromium(VI) oxide

chromyl chloride

Exothermic reaction with:

Acetaldehyde

Acrolein

Barium

boron compounds

Bromine

halogen-halogen compounds

hydrogen bromide

silane

Hydrogen chloride gas

halogen compounds

dimethylsulfate

nitrogen oxides

Fluorine

Hydrogen fluoride

chlorates

Carbon dioxide (CO<sub>2</sub>)

Ethylene oxide

polymerisable

Violent reactions possible with:

The generally known reaction partners of water.

## 10.4 Conditions to avoid

no information available

## 10.5 Incompatible materials

Aluminum, Lead, Nickel, silver, Zinc, Copper, metal alloys, various metals, copper compounds

## 10.6 Hazardous decomposition products

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Mixture

Acute toxicity

Acute toxicity estimate Oral - > 2.000 mg/kg

(Calculation method)

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages: damage of respiratory tract

Dermal: No data available

Skin corrosion/irritation

Remarks: Mixture causes burns.

Serious eye damage/eye irritation

Remarks: Mixture causes serious eye damage.

Risk of blindness!

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

Mixture may cause respiratory irritation.

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

### 11.2 Additional Information

Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

bronchitis

Cough

Shortness of breath

Abdominal pain

Bloody vomiting

Nausea

shock

Convulsions

Systemic effects:

collapse

Unconsciousness

Lung edema

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Components

ammonia solution

Acute toxicity

Oral: No data available

Inhalation: Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Dermal: No data available

Skin corrosion/irritation

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Remarks: Causes skin burns.  
Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)  
Serious eye damage/eye irritation  
Remarks: Causes serious eye damage.  
Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)  
Respiratory or skin sensitization  
No data available  
Germ cell mutagenicity  
No data available  
Carcinogenicity  
No data available  
Reproductive toxicity  
No data available  
Specific target organ toxicity - single exposure  
May cause respiratory irritation.  
Specific target organ toxicity - repeated exposure  
No data available  
Aspiration hazard  
No data available  
ammonium chloride  
Acute toxicity  
LD50 Oral - Rat - male and female - 1.410 mg/kg  
(OECD Test Guideline 401)  
Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus  
and gastrointestinal tract.  
Symptoms: Possible damages:, mucosal irritations  
LD50 Dermal - Rat - male and female - > 2.000 mg/kg  
Remarks: (ECHA)  
Skin corrosion/irritation  
Skin - Rabbit  
Result: No skin irritation - 24 h  
(Draize Test)  
Serious eye damage/eye irritation  
Eyes - Rabbit  
Result: Eye irritation  
Remarks: (ECHA)  
Respiratory or skin sensitization  
Maximization Test - Guinea pig  
Result: negative  
(OECD Test Guideline 406)  
Germ cell mutagenicity  
Test Type: Ames test  
Test system: Escherichia coli/Salmonella typhimurium  
Result: negative  
Test Type: Mutagenicity (mammal cell test): chromosome aberration.  
Test system: Chinese hamster lung cells  
Result: positive  
Method: OECD Test Guideline 474  
Species: Mouse - male - Bone marrow  
Result: negative  
Carcinogenicity  
No data available  
Reproductive toxicity  
No data available  
Specific target organ toxicity - single exposure  
Acute oral toxicity - Irritations of mucous membranes in the mouth, pharynx,  
oesophagus and gastrointestinal tract.  
Acute inhalation toxicity - Possible damages:, mucosal irritations  
Specific target organ toxicity - repeated exposure  
Aspiration hazard  
No data available

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## SECTION 12: Ecological information

### 12.1 Toxicity

Mixture

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

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### 12.6 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### 12.7 Other adverse effects

Biological effects:

Harmful effect due to pH shift.

Discharge into the environment must be avoided.

Components

ammonia solution

Toxicity to fish flow-through test LC50 - Pimephales promelas (fathead minnow) - 0,068 mg/l - 96 h

Remarks: (ECHA)

The value is given in analogy to the following substances:

ammonium sulphate

Toxicity to daphnia

and other aquatic

invertebrates

static test LC50 - Daphnia magna (Water flea) - 101 mg/l - 48 h

Remarks: (ECHA)

anhydrous

Toxicity to

fish(Chronic toxicity)

flow-through test NOEC - Ictalurus punctatus - 0,048 mg/l - 31 d

(OECD Test Guideline 215)

Remarks: anhydrous

Toxicity to daphnia

and other aquatic

flow-through test LC50 - Daphnia magna (Water flea) - 4,07 mg/l - 96 h

invertebrates(Chronic

toxicity)

(US-EPA)

Remarks: The value is given in analogy to the following substances:

The value is given in analogy to the following substances:

ammonium chloride

flow-through test NOEC - Daphnia magna (Water flea) - 0,79 mg/l - 96 h

(US-EPA)

Remarks: The value is given in analogy to the following

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substances:

The value is given in analogy to the following substances:

ammonium chloride

ammonium chloride

Toxicity to fish semi-static test LC50 - Cyprinus carpio (Carp) - 209,00 mg/l - 96 h

Remarks: (ECHA)

Toxicity to daphnia

and other aquatic

invertebrates

static test EC50 - Daphnia magna (Water flea) - 101 mg/l - 48 h

Remarks: (ECHA)

Toxicity to algae static test ErC50 - Chlorella vulgaris (Fresh water algae) -

1.300 mg/l - 5 d

Remarks: (ECHA)

Toxicity to bacteria static test EC50 - activated sludge - 1.310 mg/l - 0,5 h

(OECD Test Guideline 209)

Toxicity to daphnia

and other aquatic

invertebrates(Chronic

toxicity)

semi-static test NOEC - Daphnia magna (Water flea) - 14,6

mg/l - 21 d

Remarks: (ECHA)

## SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

## SECTION 14: Transport information

14.1 UN number

ADR/RID: -

IMDG: -

IATA: -

14.2 UN proper shipping name

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA: Not dangerous goods

14.3 Transport hazard class(es)

ADR/RID: -

IMDG: -

IATA: -

14.4 Packaging group

ADR/RID: -

IMDG: -

IATA: -

14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

14.6 Special precautions for user

No data available

Further information

Not classified as dangerous in the meaning of transport regulations.

## SECTION 15: Regulatory information

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Authorisations and/or restrictions on use

REACH - Restrictions on the manufacture,

placing on the market and use of certain

dangerous substances, mixtures and articles

(Annex XVII)

: ammonium chloride

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National legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

: ENVIRONMENTAL HAZARDS

Other regulations

Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

## Section 16: Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.



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