An ISO 9001: 2015 & GMP Certified Company Office: No 603, 6th Floor, Tardeo AC Market, 87, Tardeo Road, Tardeo, Mumbai, Maharashtra 400034, India (BHARAT)

Tel: +91 98200 41841 Email: info@ottokemi.com Web: www.ottokemi.com

#### **MATERIAL SAFETY DATA SHEET (MSDS)**

**SECTION 1: Product identifiers** 

Product Name: Ammonia ca. 7N solution in methanol

Product Code: A 2023 CAS No: 7664-41-7

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

No 603, 6th Floor, Tardeo AC Market, 87, Tardeo Road, Tardeo, Mumbai, Maharashtra 400034, India (BHARAT)

1.4. Emergency telephone number

Phone no.: + 91 98200 41841 (10:00 am - 06:00 pm)

**SECTION 2: Hazards identification** 

2.1 Classification of the substance or mixture

Flammable liquids, (Category 2) Acute toxicity, (Category 3) Acute toxicity, (Category 3) Acute toxicity, (Category 3)

Skin corrosion, (Sub-category

damage.

1B)

Serious eye damage, (Category

Specific target organ toxicity single exposure, (Category 1), Eyes, Central nervous system

Short-term (acute) aquatic

hazard, (Category 1)

Long-term (chronic) aquatic

hazard, (Category 3)

lasting effects.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram Signal Word Hazard Statements

H225 H

H301 + H311 + H331

H314 H370 H410

**Precautionary Statements** 

P210

P273 P280

P303 + P361 + P353

clothing. Rinse skin with water.

P304 + P340 + P310

for breathing. Immediately call a POISON CENTER/ doctor.

P305 + P351 + P338 IF

Supplemental Hazard information (EU)

H225: Highly flammable liquid and vapor.

H301: Toxic if swallowed. H331: Toxic if inhaled.

H311: Toxic in contact with skin.

H314: Causes severe skin burns and eye

H318: Causes serious eye damage

H370: Causes damage to organs.

H400: Very toxic to aquatic life.

H412: Harmful to aquatic life with long

Danger

ighly flammable liquid and vapor.

Toxic if swallowed, in contact with skin or if inhaled.

Causes severe skin burns and eye damage.

Causes damage to organs (Eyes, Central nervous system).

Very toxic to aquatic life with long lasting effects.

Keep away from heat, hot surfaces, sparks, open flames and

other ignition sources. No smoking.

Avoid release to the environment.

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

IF ON SKIN (or hair): Take off immediately all contaminated

IF INHALED: Remove person to fresh air and keep comfortable

IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue

rinsing.

#### DISCLAIMER

Otto Chemie Pvt Ltd - products are only for laboratory use only. Not for drug, medicinal, household or any other use. No liability accepted for mishandling in use - please test before use

Otto Chemie Pvt Ltd - shall not be responsible for any damage resulting from handling or from contact with the above product.

An ISO 9001: 2015 & GMP Certified Company Office: No 603, 6th Floor, Tardeo AC Market, 87, Tardeo Road, Tardeo, Mumbai, Maharashtra 400034, India (BHARAT)

Tel: +91 98200 41841 Email: info@ottokemi.com Web: www.ottokemi.com

Danger

protection.

rinsing.

Corrosive to the respiratory tract.

Causes severe skin burns and eye damage.

Toxic if swallowed, in contact with skin or if inhaled.

Wear protective gloves/ protective clothing/ eve protection/ face

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.

IF ON SKIN (or hair): Take off immediately all contaminated

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

Causes damage to organs.

clothing. Rinse skin with water.

Corrosive to the respiratory tract.

**EUH071** 

Reduced Labeling (<= 125 ml)

Pictogram

Signal Word

**Hazard Statements** 

H370 H314

H301 + H311 + H331

**Precautionary Statements** 

P303 + P361 + P353

P304 + P340 + P310

P305 + P351 + P338

Supplemental Hazard information (EU)

EUH071

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. Ecological information:

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. Toxicological information:

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.

#### **SECTION 3: Composition/information on ingredients**

3.2 Mixtures

Molecular weight 17,03 g/mol

Component		Classification	Concentration
Methanol			
CAS-No. EC-No. Index-No. Registration Number	67-56-1 200-659-6 603-001-00-X 01-2119433307-44- XXXX	Flam. Liq. 2; Acute Tox. 3; STOT SE 1; H225, H301, H331, H311, H370 Concentration limits: >= 10 %: STOT SE 1, H370; 3 - < 10 %: STOT SE 2, H371	>= 70 - < 90 %
ammonia anhydrous			
CAS-No.	7664-41-7	Flam. Gas 2; Press. Gas	>= 10 - < 20

### DISCI AIMER

Otto Chemie Pvt Ltd - products are only for laboratory use only. Not for drug, medicinal, household or any other use. No liability accepted for mishandling in use - please test before use

Otto Chemie Pvt Ltd - shall not be responsible for any damage resulting from handling or from contact with the above product.

An ISO 9001: 2015 & GMP Certified Company Office: No 603, 6th Floor, Tardeo AC Market, 87, Tardeo Road, Tardeo, Mumbai, Maharashtra 400034, India (BHARAT)

Tel: +91 98200 41841 Email: info@ottokemi.com Web: www.ottokemi.com

EC-No. 231-635-3 Index-No. 007-001-00-5 Registration 01-2119488876-14-

Number XXXX

Liquefied gas; Acute Tox. 3; Skin Corr. 1B; Eye Dam. 1; Aquatic Acute 1; Aquatic Chronic 2; H221, H280, H331, H314, H318, H400, H411 M-Factor - Aquatic Acute: 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. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

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: fresh air. Make victim drink ethanol (e.g. 1 drinking glass of a 40% alcoholic beverage). Call a doctor immediately (mention methanol ingestion). Only in exceptional cases, if no medical care is available within one hour, induce vomiting (only in fully conscious persons) and make victim drink ethanol again (approx. 0.3 ml of a 40% alcoholic beverage/kg body weight/hour). 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

Foam Carbon dioxide (CO2) Dry powder

Unsuitable extinguishing media

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

5.2 Special hazards arising from the substance or mixture

Carbon oxides

Nitrogen oxides (NOx)

Combustible.

Pay attention to flashback.

Vapors are heavier than air and may spread along floors.

Development of hazardous combustion gases or vapours possible in the event of fire.

Forms explosive mixtures with air at ambient temperatures.

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

Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

#### DISCI AIMER

Otto Chemie Pvt Ltd - products are only for laboratory use only. Not for drug, medicinal, household or any other use. No liability accepted for mishandling in use - please test before use

Otto Chemie Pvt Ltd - shall not be responsible for any damage resulting from handling or from contact with the above product.

An ISO 9001 : 2015 & GMP Certified Company Office : No 603, 6th Floor, Tardeo AC Market, 87, Tardeo Road, Tardeo, Mumbai, Maharashtra 400034, India (BHARAT)

Tel: + 91 98200 41841 Email: info@ottokemi.com Web: www.ottokemi.com

#### **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. Keep away from heat and sources of ignition. 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. Risk of explosion.

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 carefully with liquid-absorbent material (e.g.

Chemizorb®). 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

Advice on safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition Take precautionary measures against static discharge.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

eep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Keep locked up or in an area accessible only to qualified or authorized persons.

Storage stabilityRecommended storage temperature

2 - 8 °C

Storage class

Storage class (TRGS 510): 3: Flammable liquids

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

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of Regulation (EU)

2016/425 and the standard EN 374 derived from it.

Full contact

Material: butvl-rubber

Minimum layer thickness: 0,3 mm Break through time: 480 min Minimum layer thickness: 0,4 mm Break through time: 30 min

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail

#### DISCLAIMER

Otto Chemie Pvt Ltd - products are only for laboratory use only. Not for drug, medicinal, household or any other use. No liability accepted for mishandling in use - please test before use

Otto Chemie Pvt Ltd - shall not be responsible for any damage resulting from handling or from contact with the above product.

An ISO 9001: 2015 & GMP Certified Company Office: No 603, 6th Floor, Tardeo AC Market, 87, Tardeo Road, Tardeo, Mumbai, Maharashtra 400034, India (BHARAT)

Tel: +91 98200 41841 Email: info@ottokemi.com Web: www.ottokemi.com

sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

**Body Protection** 

Flame retardant antistatic protective clothing.

Respiratory protection

required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type ABEK

The entrepeneur 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. Risk of explosion.

#### **SECTION 9: Physical and chemical properties**

9.1 Information on basic physical and chemical properties

- a) Physical state
- b) Color
- c) Odor
- d) Melting

point/freezing point

- e) Initial boiling point and boiling range
- f) Flammability (solid,

gas)

g) Upper/lower flammability or

explosive limits

- No data available h) Flash point 14 °C closed cup
- i) Autoignition

temperature

j) Decomposition

temperature

k) pH

I) Viscosity

- m) Water solubility
- n) Partition coefficient:

n-octanol/water

- o) Vapor pressure
- p) Density

Relative density

- q) Relative vapor
- density
- r) Particle

characteristics

- s) Explosive properties
- t) Oxidizing properties
- 9.2 Other safety information

No data available

### **SECTION 10: Stability and reactivity** 10.1 Reactivity

liquid, clear colorless

No data available No data availabl

No data available

No data available

No data available

### No data available

No data available

Viscosity, kinematic: No data available Viscosity, dynamic: No data available

No data available No data availabl

No data available 0,779 g/mL at 25 °C No data available No data available

No data available

Not classified as explosive.

none

#### DISCI AIMER

Otto Chemie Pvt Ltd - products are only for laboratory use only. Not for drug, medicinal, household or any other use. No liability accepted for mishandling in use - please test before use

Otto Chemie Pvt Ltd - shall not be responsible for any damage resulting from handling or from contact with the above product.

An ISO 9001 : 2015 & GMP Certified Company Office : No 603, 6th Floor, Tardeo AC Market, 87, Tardeo Road, Tardeo, Mumbai, Maharashtra 400034, India (BHARAT)

Tel: +91 98200 41841 Email: info@ottokemi.com Web: www.ottokemi.com

Vapors may form explosive mixture with air.

10.2 Chemical stability

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

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

Warming.

10.5 Incompatible materials

Strong oxidizing agents

10.6 Hazardous decomposition products

In the event of fire: see section 5

### **SECTION 11: Toxicological information**

11.1 Information on toxicological effects

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Toxicity to Animals:

Oral LD50 Rat: 1500 mg/kg; Dermal LD50 Rabbit: 2000mg/kg

Inhalation LC50 Rat: > 50mg/L.

Chronic Effects on Humans: CARCINOGENIC EFFECTS: Classified None. by NTP, None. by OSHA, None. by NIOSH.

Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant), of inhalation (lung irritant).

Special Remarks on Toxicity

to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

#### **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

No data available Components

Methanol

Toxicity to fish

flow-through test LC50 - Lepomis macrochirus (Bluegill) -

15.400,0 mg/l - 96 h

(US-EPA)

semi-static test EC50 - Daphnia magna (Water flea) - 18.260

Toxicity to daphnia

mg/l - 96 h

(OECD Test Guideline 202)

and other aquatic invertebrates

Toxicity to algae static test ErC50 - Pseudokirchneriella subcapitata (green

algae) - ca. 22.000,0 mg/l - 96 h

DISCLAIMER

Otto Chemie Pvt Ltd - products are only for laboratory use only. Not for drug, medicinal, household or any other use. No liability accepted for mishandling in use - please test before use

Otto Chemie Pvt Ltd - shall not be responsible for any damage resulting from handling or from contact with the above product.

An ISO 9001: 2015 & GMP Certified Company Office: No 603, 6th Floor, Tardeo AC Market, 87, Tardeo Road, Tardeo, Mumbai, Maharashtra 400034, India (BHARAT)

Tel: +91 98200 41841 Email: info@ottokemi.com Web: www.ottokemi.com

(OECD Test Guideline 201)

Toxicity to bacteria static test IC50 - activated sludge - > 1.000 mg/l - 3 h

(OECD Test Guideline 209)

Toxicity to

fish(Chronic toxicity)

NOEC - Oryzias latipes (Orange-red killifish) - 7.900 mg/l - 200

h

Remarks: (External MSDS)

ammonia anhydrous

Toxicity to fish

flow-through test LC50 - Pimephales promelas (fathead

minnow) - 0,068 mg/l - 96 h

Remarks: (in analogy to similar products)

(ECHA)

The value is given in analogy to the following substances:

ammonium sulphate

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

Toxicity to daphnia h

Remarks: (ECHA)

and other aquatic invertebrates Remarks: (ECHA)

C50 - Daphnia pulicaria - 1,16 mg/l - 48 h

Remarks: (Lit.)

Toxicity to fish(Chronic toxicity)

Toxicity to daphnia and other aquatic invertebrates(Chronic

toxicity) Remarks: (in

Remarks: (in

SECTION 13: Disposal considerations 13.1 Waste treatment methods No data available

flow-through test NOEC - Ictalurus punctatus - 0,048 mg/l - 31 (OECD Test Guideline 215)

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

analogy to similar products)

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)

analogy to similar products)

The value is given in analogy to the following substances:

mmonium chloride

SECTION 14: Transport information 14.1 UN number ADR/RID: 3286 14.2 UN proper shipping name

/RID: 3286 IMDG: 3286 IATA: 3286

DISCLAIMER

Otto Chemie Pvt Ltd - products are only for laboratory use only. Not for drug, medicinal, household or any other use. No liability accepted for mishandling in use - please test before use

Otto Chemie Pvt Ltd - shall not be responsible for any damage resulting from handling or from contact with the above product.

An ISO 9001: 2015 & GMP Certified Company
Office: No 603, 6th Floor, Tardeo AC Market, 87, Tardeo Road,
Tardeo, Mumbai, Maharashtra 400034, India (BHARAT)

Tel: +91 98200 41841 Email: info@ottokemi.com Web: www.ottokemi.com

ADR/RID: FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S. (Methanol, ammonia

anhydrous)
IMDG: FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S. (Methanol, ammonia

anhydrous)

IATA: Flammable liquid, toxic, corrosive, n.o.s. (Methanol, ammonia anhydrous)

14.3 Transport hazard class(es)

ADR/RID: 3 (6.1, 8) IMDG: 3 (6.1, 8) IATA: 3 (6.1)(8)

14.4 Packaging group

ADR/RID: II IMDG: II IATA: II 4.5 Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for user Tunnel restriction code : (D/E) Further information : No data available

**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)

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.

Methanol

**H2 ACUTE TOXIC** 

E2 ENVIRONMENTAL HAZARDS
35 Anhydrous Ammonia
P5c FLAMMABLE LIQUIDS
H2 ACUTE TOXIC
P5c FLAMMABLE LIQUIDS
E1 ENVIRONMENTAL HAZARDS
22 Methanol

### Other regulations

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

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.

Otto Chemie Pvt Ltd - products are only for laboratory use only. Not for drug, medicinal, household or any other use. No liability accepted for mishandling in use - please test before use

Otto Chemie Pvt Ltd - shall not be responsible for any damage resulting from handling or from contact with the above product.