

# 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)

## MATERIAL SAFETY DATA SHEET (MSDS)

### SECTION 1. Product identifiers

Product name: N-Methylpyrrolidine, 97%  
Product Code: M 0482  
CAS No : 120-94-5

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

Flammable liquids, (Category 2)

Acute toxicity, (Category 3)

Acute toxicity, (Category 4)

Skin corrosion, (Sub-category 1A)

Long-term (chronic) aquatic hazard, (Category 2)

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram

Signal Word

Hazard Statements

H225

H301

H314

H332

H411

Precautionary Statements

P210

P273

P280

P303 + P361 + P353

P304 + P340 + P310

P305 + P351 + P338

Supplemental Hazard

Statements

Reduced Labeling (<= 125 ml)

Pictogram

Signal Word

Hazard Statements

H301

H314

H225: Highly flammable liquid and vapor.

H301: Toxic if swallowed.

H332: Harmful if inhaled.

H314: Causes severe skin burns and eye damage.

H411: Toxic to aquatic life with long lasting effects.

Danger

Highly flammable liquid and vapor.

Toxic if swallowed.

Causes severe skin burns and eye damage.

Harmful if inhaled.

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 clothing. Rinse skin with water.

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

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

none

Danger

Toxic if swallowed.

Causes severe skin burns and eye damage.

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## Precautionary Statements 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.

P304 + P340 + P310

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

P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
none

## Supplemental Hazard Statements

### 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

### 3.1 Substances

Formula : C<sub>5</sub>H<sub>11</sub>N  
Molecular weight : 85,15 g/mol  
CAS-No. : 120-94-5  
EC-No. : 204-438-5

| Component                            | Classification   | Concentration |
|--------------------------------------|--|---------------|
| 1-methylpyrrolidine                  |  |               |
| CAS-No. 120-94-5<br>EC-No. 204-438-5 | Flam. Liq. 2; Acute Tox. 3; Acute Tox. 4;<br>Skin Corr. 1A; Aquatic Chronic 2; H225,<br>H301, H332, H314, H411 | <= 100 %      |

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

If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible. Do not attempt to neutralise.

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

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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

Carbon dioxide (CO<sub>2</sub>) Foam 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 (NO<sub>x</sub>)

Pay attention to flashback.

Vapors are heavier than air and may spread along floors.

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.

## 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

Keep 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 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

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## 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.

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0,4 mm

Break through time: 55 min

Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail [sales@kcl.de](mailto: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 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. Risk of explosion.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

a) Physical state

liquid

b) Color

colorless

c) Odor

amine-like

d) Melting

Melting point: < -80 °C

point/freezing point

e) Initial boiling point

80 - 81 °C

and boiling range

f) Flammability (solid,

No data available

gas)

g) Upper/lower

Upper explosion limit: 9,1 %(V)

flammability or

explosive limits

Lower explosion

limit: 1,1 %(V)

h) Flash point

-18 °C - closed cup - Regulation (EC) No. 440/2008, Annex, A.9

i) Autoignition

180 °C

temperature

at 1.013,25 hPa

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|   |  |
|---|--|
| j) Decomposition temperature              | No data available  |
| k) pH                                     | 12,3 at 10,2 g/l at 20 °C  |
| l) Viscosity                              | Viscosity, kinematic: No data available<br>Viscosity, dynamic: 0,48 mPa.s at 20 °C |
| m) Water                                  | solubility at 23 °C completely miscible  |
| n) Partition coefficient: n-octanol/water | log Pow: 1,1 at 23 °C - OECD Test Guideline 117 - Bioaccumulation is not expected. |
| o) Vapor pressure                         | 107,46 hPa at 20 °C - OECD Test Guideline 104                                      |
| p) Density                                | 0,819 g/mL at 25 °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              |  |
| Relative vapor density                    | 2,94   |

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

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

Violent reactions possible with:

acids

Strong oxidizing agents

### 10.4 Conditions to avoid

Warming.

### 10.5 Incompatible materials

No data available

### 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

Toxicity to fish semi-static test LC50 - Danio rerio (zebra fish) - 46,4 - 100 mg/l - 96 h

(OECD Test Guideline 203)

Toxicity to daphnia

and other aquatic

invertebrates

static test EC50 - Daphnia magna (Water flea) - 7,29 mg/l - 48 h

(Directive 67/548/EEC, Annex V, C.2.)

Toxicity to algae static test ErC50 - Pseudokirchneriella subcapitata (green algae) -

162,69 mg/l - 72 h

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(OECD Test Guideline 201)  
static test EC10 - Pseudokirchneriella subcapitata (green algae) -  
69,07 mg/l - 72 h  
(OECD Test Guideline 201)  
Toxicity to bacteria static test EC20 - activated sludge - > 100 mg/l - 0,5 h  
(OECD Test Guideline 209)  
12.2 Persistence and degradability  
Biodegradability aerobic - Exposure time 10 d  
Result: 98 % - Readily biodegradable.  
(OECD Test Guideline 302B)  
Biochemical Oxygen  
Demand (BOD)  
< 2 mg/g  
Remarks: (External MSDS)  
Chemical Oxygen  
Demand (COD)  
1.880 mg/g  
Remarks: (External MSDS)  
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

## SECTION 13: Disposal considerations

13.1 Waste treatment methods  
No data available

## SECTION 14: Transport information

|                                   |  |                  |
|-----------------------------------|--|------------------|
| 14.1 UN number                    | IMDG: 3286   | IATA: 3286       |
| ADR/RID: 3286                     |  |                  |
| 14.2 UN proper shipping name      |  |                  |
| ADR/RID                           | : FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S. (1-methylpyrrolidine) |                  |
| IMDG                              | : FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S. (1-methylpyrrolidine) |                  |
| IATA                              | : Flammable liquid, toxic, corrosive, n.o.s. (1-methylpyrrolidine) |                  |
| 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         |
| 14.5 Environmental hazards        |  |                  |
| ADR/RID: yes                      | IMDG Marine pollutant: yes   | 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.

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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.

P5c FLAMMABLE LIQUIDS

E2 ENVIRONMENTAL HAZARDS

## Other regulations

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

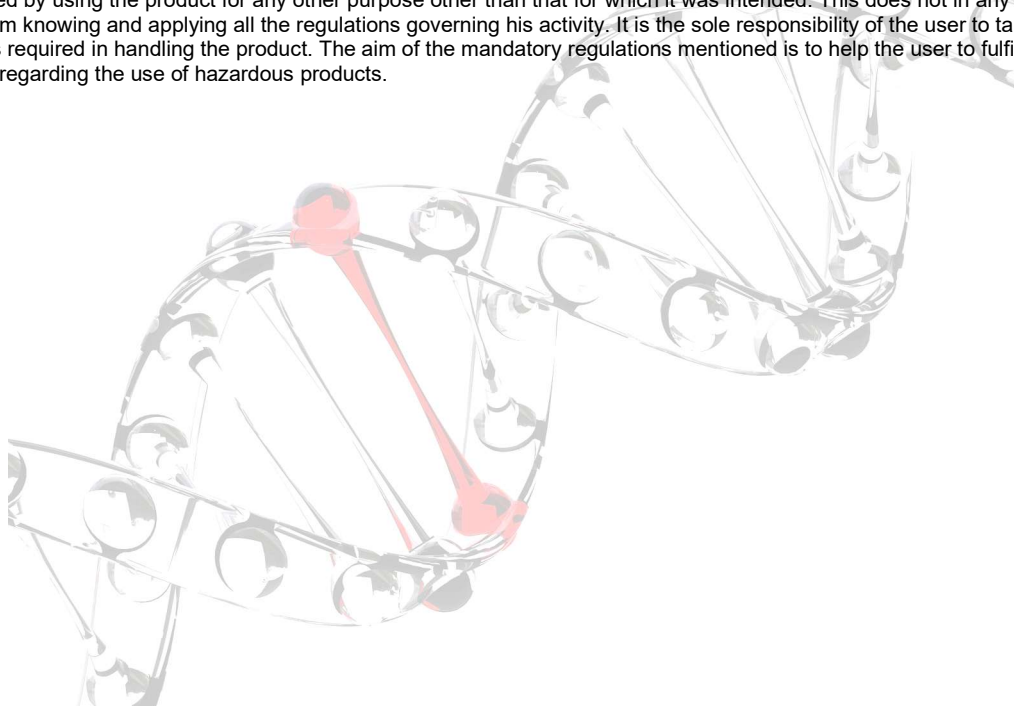
Take note of Dir 94/33/EC on the protection of young people at work.

## 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.



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