

Otto Chemie Pvt Ltd

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

Creation Date: 30-06-2026

Revision Date: 25-05-2021

MATERIAL SAFETY DATA SHEET (MSDS)

SECTION 1: Product identifiers

Product Name: Benzonitrile, ACS, 99%
Product Code: B 5499
CAS No: 100-47-0

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
Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 4
Acute toxicity, Category 4

2.2 Label elements
Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms
Signal word
Hazard statements

Precautionary
Statements

H302: Harmful if swallowed.
H312: Harmful in contact with skin.

:
: Warning
: H302 + H312 Harmful if swallowed or in contact with
skin.

Prevention:
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ protective clothing.

Response:
P301 + P312 IF SWALLOWED: Call a POISON CENTER/
doctor if you feel unwell.
P302 + P352 + P312 IF ON SKIN: Wash with plenty of
water. Call a POISON CENTER/ doctor if you
feel unwell.
P362 + P364 Take off contaminated clothing and wash
it before reuse.

Disposal:
P501 Dispose of contents/ container to an

approved waste disposal plant.
Reduced Labelling (<= 125 ml)

Hazard pictograms
Signal word
Hazard Statements
Precautionary Statements
Supplemental Hazard
Statements

:
Warning
none
none
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.
Ecological information: The substance/mixture does not contain components considered to
have endocrine disrupting properties according to REACH Article 57(f) or Commission

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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

Substance name : Phenyl cyanide

EC-No. : 202-855-7

Components

Chemical name	CAS-No. EC-No.	Concentration (% w/w)	M-Factor, SCL, ATE
Benzonitrile	100-47-0 202-855-7	>= 90 - <= 100	Acute toxicity estimate Acute oral toxicity: 1.000 mg/kg Acute dermal toxicity: 1.400 mg/kg

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Show this safety data sheet to the doctor in attendance.

If inhaled : After inhalation: fresh air.

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

In case of eye contact : After eye contact: rinse out with plenty of water. Remove contact lenses.

If swallowed : After swallowing: immediately make victim drink water (two glasses at most).

Consult a physician.

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

Water

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

Specific hazards during

fire fighting

Combustible.

Vapours are heavier than air and may spread along floors.

Forms explosive mixtures with air on intense heating.

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

Hazardous combustion

products

Carbon oxides

Nitrogen oxides (NOx)

5.3 Advice for firefighters

Special protective

equipment 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.

Further information : Remove container from danger zone and cool with water.

Suppress (knock down) gases/vapours/mists with a water spray jet.

Prevent fire extinguishing water from contaminating surface water or the ground water system.

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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Advice for non-emergency personnel: Do not breathe vapours, 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

Environmental precautions

Do not let product enter drains.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

For disposal considerations see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

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

Further information on

storage conditions

Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorised persons.

Storage class (TRGS 510) : 6.1A, Combustible, acute toxic Cat. 1 and 2 / very toxic hazardous materials

Further information on

storage stability

hygroscopic Handle and store under inert gas.

Packaging material : Suitable material: Amber Glass Bottle/Jar

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

Occupational Exposure Limits

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).

Safety glasses

Hand protection

Material : Viton®

Break through time : 480 min

Glove thickness : 0,7 mm

Protective index : Full contact

Manufacturer : Vitoject®

Material : Nitrile rubber

Break through time : 30 min

Glove thickness : 0,4 mm

Protective index : Splash contact

Manufacturer : Camatril®

Remarks : 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 EN 16523-1 please contact the

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supplier of CE-approved gloves (e.g. KCL GmbH, D36124 Eichenzell, Internet: www.kcl.de).

Skin and body protection : 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.

Environmental exposure controls

Advice : Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	: Liquid
Color	: colourless
Odor	: No data available
Melting point/ range	: -13 °C Method: lit.
Boiling point/boiling range	: 191 °C Method: lit.
Flammability	: No data available
Upper explosion limit / Upper flammability limit	: 7,2 %(V)
Lower explosion limit / Lower flammability limit	: 1,4 %(V)
Flash point	: 70 °C Method: closed cup
Autoignition temperature	: 550 °C
Decomposition temperature	: No data available
pH	: No data available
Viscosity	
Viscosity, dynamic	: 1,24 mPa.s (25 °C)
Viscosity, kinematic	: 1,054 mm ² /s (37,78 °C)
Flow time	: No data available
Solubility(ies)	
Water solubility	: 0,001 g/l (25 °C) slightly soluble
Partition coefficient: octanol/water	: log Pow: 1,5 (20 °C) Method: OECD Test Guideline 107 GLP: yes Bioaccumulation is not expected.
Vapor pressure	: 1 hPa (20 °C) 133 hPa (123,5 °C)
Relative density	: 1,005
Density	: 1,000 g/cm ³
Relative vapour density	: 3,56 (Air = 1.0)
9.2 Other information	
Explosives	: No data available
Oxidizing properties	: none
Burning rate	: No data available
Self-ignition	: ca. 615 °C ca. 1.013 hPa
Evaporation rate	: No data available
Surface tension	: 0,03 mN/m, 25 °C
Molecular weight	: 103,12 g/mol

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SECTION 10: Stability and reactivity

10.1 Reactivity

Forms explosive mixtures with air on intense heating.

A range from approx. 15 Kelvin below the flash point is to be rated as critical.

10.2 Chemical stability

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

10.3 Possibility of hazardous reactions

Hazardous reactions : Violent reactions possible with:

Strong oxidizing agents acids

10.4 Conditions to avoid

Conditions to avoid : Avoid moisture. Do not heat over: 30°C

Strong heating.

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

Components:

benzonitrile:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 32 mg/l

Exposure time: 96 h Remarks: (External MSDS)

Toxicity to algae/aquatic plants

IC50 (Chlorella vulgaris (Fresh water algae)): 231 mg/l Exposure time: 6 h

Test Type: Cell multiplication inhibition test

Remarks: (IUCLID)

Toxicity to microorganisms

EC10 (Pseudomonas putida): 11 mg/l

Exposure time: 16 h

Remarks: (IUCLID)

Ecotoxicology Assessment

Acute aquatic toxicity : This product has no known ecotoxicological effects.

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

12.2 Persistence and degradability

Components:

benzonitrile:

Biodegradability : Test Type: aerobic

Inoculum: activated sludge

Concentration: 12,2 mg/l

Result: Readily biodegradable.

Biodegradation: 100 %

Exposure time: 14 d

Method: OECD Test Guideline 301E GLP: yes

12.3 Bioaccumulative potential

Components:

benzonitrile:

Partition coefficient: octanol/water log Pow: 1,5 (20 °C) pH: 7,4

Method: OECD Test Guideline 107 GLP: yes

Remarks: Bioaccumulation is not expected.

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12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Product:

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.

No data available

12.7 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

SECTION 14: Transport information

14.1 UN number or ID number

ADR : UN 2224

IMDG : UN 2224

IATA : UN 2224

14.2 UN proper shipping name

ADR : BENZONITRILE

IMDG : BENZONITRILE

IATA : Benzonitrile

14.3 Transport hazard class(es)

Class Subsidiary risks

ADR : 6.1

IMDG : 6.1

IATA : 6.1

14.4 Packing group

ADR : II

Packing group : T1

Classification Code : 60

Hazard Identification

Number

Labels : 6.1

Tunnel restriction code : (D/E)

IMDG

Packing group : II

Labels : 6.1

EmS Code : F-A, S-A

IATA (Cargo)

Packing instruction (cargo aircraft) : 662

Packing instruction (LQ) : Y641

Packing group : II

Labels : Division 6.1 - Toxic substances

IATA_P (Passenger)

Packing instruction : 654

(passenger aircraft)

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Packing instruction (LQ) : Y641
Packing group : II
Labels : Division 6.1 - Toxic substances
14.5 Environmental hazards
ADR
Environmentally hazardous : no
IMDG
Marine pollutant : no
14.6 Special precautions for user
The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.
14.7 Maritime transport in bulk according to IMO instruments
Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)

Conditions of restriction for the following entries should be considered:

Number on list 3

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).

Not applicable

Regulation (EU) No 2024/590 on substances that deplete the ozone layer

Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast)

Not applicable

REACH - List of substances subject to authorisation (Annex XIV)

Not applicable

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

Not applicable

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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