

OTTO CHEMIE PVT LTD

201, 51-53 Maroo Bhavan, Kalbadevi, Mumbai – 400002, India. Tel : + 91 22 2207 0099 / 6638 2599
Email : info@ottokemi.com, Web : www.ottokemi.com

-----ISO 9001: 2015-----

MATERIAL SAFETY DATA SHEET

1. Identification

1.1 GHS Product identifier
Cyanoacetic acid, 98%
Code C 2745

2. Hazard identification

2.1 Classification of the substance or mixture
Acute toxicity - Oral, Category 4
Skin corrosion, Category 1B
Serious eye damage, Category 1
Acute toxicity - Inhalation, Category 4
2.2 GHS label elements, including precautionary statements
Pictogram(s)



Signal word
Hazard statement(s)

Danger
H302 Harmful if swallowed
H314 Causes severe skin burns and eye damage
H332 Harmful if inhaled

Precautionary statement(s)
Prevention

P264 Wash ... thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P271 Use only outdoors or in a well-ventilated area.

Response

P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor/\u2026if you feel unwell.
P330 Rinse mouth.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P363 Wash contaminated clothing before reuse.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310 Immediately call a POISON CENTER/doctor/\u2026
P321 Specific treatment (see ... on this label).
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 Call a POISON CENTER/doctor/\u2026if you feel unwell.
P405 Store locked up.
P501 Dispose of contents/container to ...

Storage

Disposal

2.3 Other hazards which do not result in classification
none

3. Composition/information on ingredients

3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
Cyanoacetic acid	Cyanoacetic acid	372-09-8	none	100%

4. First-aid measures

4.1 Description of necessary first-aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms/effects, acute and delayed

Contact irritates eyes and may irritate skin. (USCG, 1999)

4.3 Indication of immediate medical attention and special treatment needed, if necessary

no data available

5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

... Water ... effective in controlling fire; however, resulting liquid ... extremely corrosive ...

5.2 Specific hazards arising from the chemical

Special Hazards of Combustion Products: Toxic oxides of nitrogen and toxic and flammable acetonitrile vapors may form in fire. (USCG, 1999)

5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Stop or control the leak, if this can be done without undue risk. Absorb in noncombustible material for proper disposal.

7. Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Protect against physical damage. Separate from other storage ... /Store/ away from any area where fire hazard may be acute.

Outside or detached storage is preferred ...

8. Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure limit values

no data available

Biological limit values

no data available

8.2 Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. 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 EU Directive 89/686/EEC and the standard EN 374 derived from it.

Respiratory protection

Wear dust mask when handling large quantities.

Thermal hazards

no data available

9. Physical and chemical properties

Physical state

yellow-brown liquid with an unpleasant odor

Colour

Hygroscopic crystals

Odour

no data available

Melting point/ freezing point

273\°C(lit.)

Boiling point or initial boiling point and boiling range

247\°C

Flammability

no data available

Lower and upper explosion limit / flammability limit

no data available

Flash point

15\°C(lit.)

Auto-ignition temperature	no data available
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	no data available
Solubility	In water:1000 g/L (20 °C)
Partition coefficient n-octanol/water (log value)	log Kow = -0.76
Vapour pressure	0.1 mm Hg (20 °C)
Density and/or relative density	1.287 g/cm ³
Relative vapour density	no data available
Particle characteristics	no data available

10. Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Combustible solid. When heated to decomp, emits ... flammable acetonitrile vapor. White, moderately toxic solid, combustible. When heated to decomposition it emits toxic fumes of nitrile and oxides of nitrogen. A stirred mixture with furfuryl alcohol exploded violently upon heating [MCA Case History No 858].

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

An explosion occurred in a laboratory when cyanoacetic acid was reacted with furfuryl alcohol in an attempt to form the ester, furfuryl cyanoacetate. The explosion occurred a few min after the agitator was turned on and the heat applied. /Furfuryl alcohol/

10.6 Hazardous decomposition products

Decomposes at 320 deg F (160 °C) with release of acetonitrile.

11. Toxicological information

Acute toxicity

Oral: LD50 Rat oral 1500 mg/kg

Inhalation: no data available

Dermal: no data available

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

STOT-single exposure

no data available

STOT-repeated exposure

no data available

Aspiration hazard

no data available

12. Ecological information

12.1 Toxicity

Toxicity to fish: no data available

Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

12.2 Persistence and degradability

AEROBIC: Cyanoacetic acid, present at 100 mg/L, reached 90% of its theoretical BOD in 2 weeks using an activated sludge inoculum at 30 mg/L and the Japanese MITI test(1).

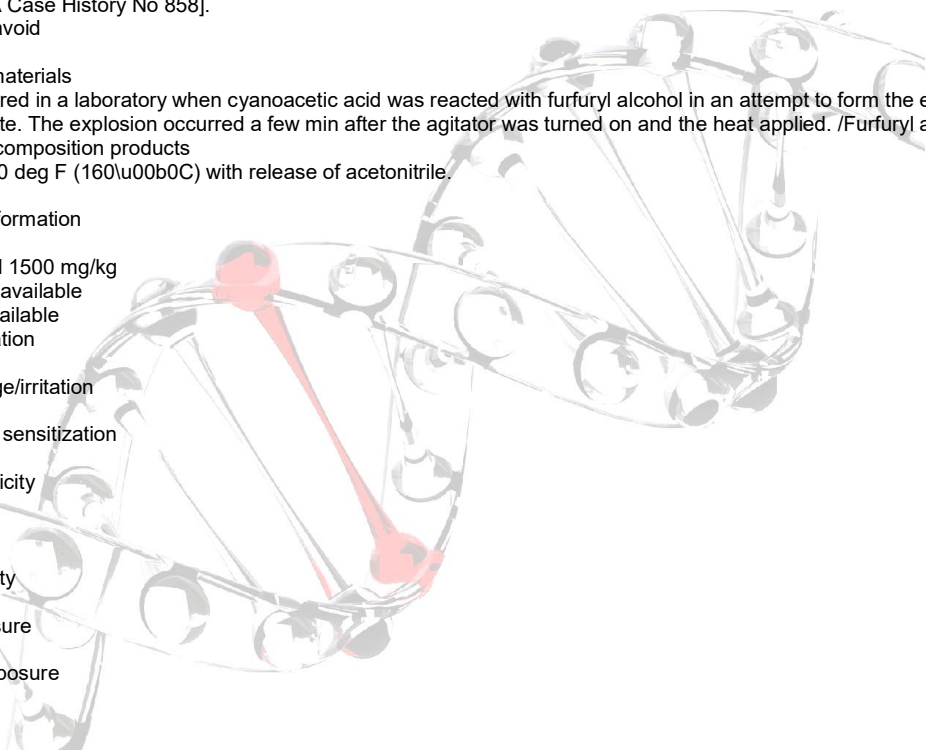
12.3 Bioaccumulative potential

An estimated BCF of 3 was calculated for cyanoacetic acid(SRC), using a log Kow of -0.76(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC).

12.4 Mobility in soil

Using a structure estimation method based on molecular connectivity indices(1), the Koc for cyanoacetic acid can be estimated to be 1(SRC). According to a classification scheme(2), this estimated Koc value suggests that cyanoacetic acid is expected to have very high mobility in soil(SRC). In addition, the pKa of cyanoacetic acid is 2.45(3), indicating that this compound will exist primarily as an anion in the environment, and anions generally possess higher mobility in soil than their neutral counterpart(4).

12.5 Other adverse effects



no data available

13. Disposal considerations

13.1 Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

14. Transport information

14.1 UN Number

ADR/RID: UN3261

IMDG: UN3261

IATA: UN3261

14.2 UN Proper Shipping Name

ADR/RID: CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.

IMDG: CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.

IATA: CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.

14.3 Transport hazard class(es)

ADR/RID: 8

IMDG: 8

IATA: 8

14.4 Packing group, if applicable

ADR/RID: III

IMDG: III

IATA: III

14.5 Environmental hazards

ADR/RID: no

IMDG: no

IATA: no

14.6 Special precautions for user

no data available

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

no data available

15. Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
Cyanoacetic acid	Cyanoacetic acid	372-09-8	none
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Not Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.

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.