

Chemical Safety Data Sheet MSDS / SDS

N,N-Bis(2-cyanoethyl)formamide

Revision Date:2026-05-31 Revision Number:1

SECTION 1: Identification of the substance/mixture and of the company/undertaking**Product identifier**

Product name : N,N-Bis(2-cyanoethyl)formamide
CBnumber : CB3218093
CAS : 3445-84-9
EINECS Number : 222-362-0
Synonyms : Bis(2-cyanoethyl)formamide, Formamide, N,N-bis(2-cyanoethyl)-

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

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.
Uses advised against : none

Company Identification

Company : Chemicalbook
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing
Telephone : 010-86108875

SECTION 2: Hazards identification**GHS Label elements, including precautionary statements**

Symbol(GHS)



Signal word

Danger

Precautionary statements

P501 Dispose of contents/container to....
P405 Store locked up.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P271 Use only outdoors or in a well-ventilated area.
P270 Do not eat, drink or smoke when using this product.
P264 Wash skin thoroughly after handling.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

Hazard statements

H319 Causes serious eye irritation

SECTION 3: Composition/information on ingredients

Substance

Product name	: N,N-Bis(2-cyanoethyl)formamide
Synonyms	: Bis(2-cyanoethyl)formamide, Formamide, N,N-bis(2-cyanoethyl)-
CAS	: 3445-84-9
EC number	: 222-362-0
MF	: C7H9N3O
MW	: 151.17

SECTION 4: First aid measures

If inhaled

Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician.

In case of skin contact

Take off all contaminated clothing immediately. Wash off with soap and plenty of water. Call a POISON CENTER or doctor/ physician if you feel unwell.

In case of eye contact

Rinse with plenty of water. If easy to do, remove contact lens, if worn. If eye irritation persists: Get medical advice/ attention.

If swallowed

Immediately call a POISON CENTER or doctor/ physician. Rinse mouth.

Most important symptoms and effects, both acute and delayed

None known.

SECTION 5: Firefighting measures

Suitable extinguishing media

Dry powder, Foam, Water spray, Carbon dioxide (CO₂)

Specific hazards during fire fighting

No information available.

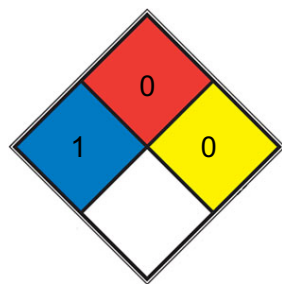
Specific extinguishing methods

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Immediately evacuate personnel to safe areas. Remove undamaged containers from fire area if it is safe to do so.

Special protective equipment for fire-fighters

Use personal protective equipment.

NFPA 704



■ HEALTH 1 Exposure would cause irritation with only minor residual injury (e.g. [acetone](#), sodium bromate, potassium chloride)

■ FIRE 0 Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand. Materials that will not burn in air when exposed to a temperature of 820 °C (1,500 °F) for a period of 5 minutes.(e.g. Carbon tetrachloride)

■ REACT 0 Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium, [N2](#))

□ SPEC.

□ HAZ.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear suitable protective equipment. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc.

Environmental precautions

Prevent product from entering drains.

Methods and materials for containment and cleaning up

Collect as much of the spill as possible with a suitable absorbent material.

SECTION 7: Handling and storage

Handling

Technical measures

Prevent generation of vapor or mist.

Local/Total ventilation

Ensure adequate ventilation. Handle product only in closed system or provide appropriate exhaust ventilation at machinery. Use a local exhaust ventilation.

Advice on safe handling

Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Wash hands and face thoroughly after handling.

Avoidance of contact

Oxidizing agents, Acids

Storage**Conditions for safe storage**

Keep container tightly closed. Store in a cool and shaded area. Keep in a well-ventilated place. Protect from moisture. Keep under inert gas.

Store locked up.

SECTION 8: Exposure controls/personal protection

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures

Install a closed system or local exhaust.

Also install safety shower and eye bath.

Personal protective equipment**Respiratory protection**

Gas mask

Self-contained breathing apparatus

Eye/face protection

Safety glasses

Safety goggles

Face-shield

Skin and body protection

Impervious protective clothing

Hand protection

Impervious gloves *Use personal protective equipment(PPE) approved under appropriate government standards and follow local and national regulations.

SECTION 9: Physical and chemical properties

Information on basic physicochemical properties

liquid

Color

white - yellow

Odor

No data available

Odor Threshold

No data available

pH

No data available

Melting point/freezing point

No data available

Boiling point/boiling range

122 °C (27 hPa)

Flash point

222 °C (Calculated value)

Evaporation rate

No data available

Flammability

No data available

Upper explosion limit / Upper flammability limit

No data available

Lower explosion limit / Lower flammability limit

No data available

Vapor pressure

No data available

Relative density

1.14

Solubility(ies)

Water solubility

soluble

Solubility in other solvents

No data available

Partition coefficient: n-octanol/water

No data available

Autoignition temperature

No data available

Decomposition temperature

No data available

Viscosity

Viscosity, dynamic

No data available

Viscosity, kinematic

No data available

Molecular weight

151.17 g/mol

Physical state

clear liquid

SECTION 10: Stability and reactivity

Reactivity

No data available

Chemical stability

Stable under normal conditions.

Possibility of hazardous reactions

None under normal processing.

Conditions to avoid

Exposure to moisture.

Incompatible materials

Oxidizing agents, Acids

Hazardous decomposition products

Carbon monoxide, Carbon dioxide (CO₂), Nitrogen oxides (NO_x)

SECTION 11: Toxicological information

Acute toxicity

Product

Acute oral toxicity

Assessment: The component/mixture is toxic after single ingestion.

Acute inhalation toxicity

Assessment: The component/mixture is toxic after short term inhalation.

Acute dermal toxicity

Assessment: The component/mixture is toxic after single contact with skin.

Components**N,N-Bis(2-cyanoethyl)formamide****Acute oral toxicity**

Assessment: The component/mixture is toxic after single ingestion.

Acute inhalation toxicity

Assessment: The component/mixture is toxic after short term inhalation.

Acute dermal toxicity

Assessment: The component/mixture is toxic after single contact with skin.

Skin corrosion/irritation**Product****Result**

Skin irritation

Components**N,N-Bis(2-cyanoethyl)formamide****Result**

Skin irritation

Serious eye damage/eye irritation**Product****Result**

Eye irritation

Components**N,N-Bis(2-cyanoethyl)formamide****Result**

Eye irritation

Respiratory or skin sensitization

Classified based on available data. For more details, see section 2.

Germ cell mutagenicity

Classified based on available data. For more details, see section 2.

Carcinogenicity

Classified based on available data. For more details, see section 2.

Reproductive toxicity

Classified based on available data. For more details, see section 2.

STOT-single exposure

Classified based on available data. For more details, see section 2.

STOT-repeated exposure

Classified based on available data. For more details, see section 2.

Repeated dose toxicity

Classified based on available data. For more details, see section 2.

Aspiration toxicity

Classified based on available data. For more details, see section 2.

SECTION 12: Ecological information

Ecotoxicity

No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13: Disposal considerations

Disposal methods

Waste from residues

Disposal in accordance with local and national regulations. Entrust disposal to a licensed waste disposal company.

Contaminated packaging

Disposal in accordance with local and national regulations. Before disposal of used container, remove contents completely.

SECTION 14: Transport information

International Regulations**IATA-DGR****UN/ID No.**

UN 2810

Proper shipping name

Toxic liquid, organic, n.o.s.

Class

6.1

Packing group

III

IMDG-Code**UN number**

UN 2810

Proper shipping name

TOXIC LIQUID, ORGANIC, N.O.S.

Class

6.1

Packing group

III

EmS Code

F-A, S-A

Domestic regulation**GB 6944/12268****UN number**

UN 2810

Proper shipping name

TOXIC LIQUID, ORGANIC, N.O.S.

Class

6.1

Packing group

III

SECTION 15: Regulatory information

CH BAGREG

On the inventory, or in compliance with the inventory

TSCA

All substances listed as active on the TSCA inventory

AICS

On the inventory, or in compliance with the inventory

DSL

All components of this product are on the Canadian DSL

ENCS

On the inventory, or in compliance with the inventory

ISHL

On the inventory, or in compliance with the inventory

KECI

Not in compliance with the inventory

PICCS

Not in compliance with the inventory

IECSC

On the inventory, or in compliance with the inventory

NZIoC

Not in compliance with the inventory

SECTION 16: Other information

Abbreviations and acronyms

CAS: Chemical Abstracts Service

TWA: Time-Weighted Average

STEL: Short-Term Exposure Limit

LD50: Lethal Dose 50%

LC50: Lethal Concentration 50%

EC50: Effective Concentration 50%

PEL: Permissible Exposure Limit

TLV: Threshold Limit Value

IMDG: International Maritime Dangerous Goods Code

IATA: International Air Transport Association

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

DOT: US Department of Transportation

NFPA: National Fire Protection Association

NIOSH: National Institute for Occupational Safety and Health

OSHA: Occupational Safety and Health Administration

Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.