ChemicalBook

Chemical Safety Data Sheet MSDS / SDS

1,3,6,8-TETRANITROCARBAZOLE

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

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

Product identifier

Product name	: 1,3,6,8-TETRANITROCARBAZOLE
CBnumber	: CB6137630
CAS	: 4543-33-3
EINECS Number	: 224-898-0
Synonyms	: 1,3,6,8-Tetranitrocarbazole

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 Warning

Precautionary statements

P501 Dispose of contents/container to.....

P363 Wash contaminated clothing before reuse.

P322 Specific measures (see …on this label).

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

P302+P352 IF ON SKIN: wash with plenty of soap and water.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P501 Dispose of contents/container to.....

P401 Store …

P373 DO NOT fight fire when fire reaches explosives.

P372 Explosion risk in case of fire.

P370+P380 in case of fire: Evacuate area.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P250 Do not subject to grinding/shock/…/friction.

P240 Ground/bond container and receiving equipment.

P230 Keep wetted with …

P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

P501 Dispose of contents/container to..…

P330 Rinse mouth.

P301+P312 IF SWALLOWED: call a POISON CENTER or doctor/physician IF you feel unwell.

P270 Do not eat, drink or smoke when using this product.

P264 Wash skin thouroughly after handling.

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

P304+P340 IF INHALED: Remove victim to fresh air and Keep at rest in a position comfortable for breathing.

P271 Use only outdoors or in a well-ventilated area.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

Hazard statements

H332 Harmful if inhaled

H312 Harmful in contact with skin

H201 Explosive; mass explosion hazard

H302 Harmful if swallowed

SECTION 3: Composition/information on ingredients

Substance

Product name	: 1,3,6,8-TETRANITROCARBAZOLE
Synonyms	: 1,3,6,8-Tetranitrocarbazole
CAS	: 4543-33-3
EC number	: 224-898-0
MF	: C12H5N5O8
MW	: 347.2

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. If on skin, rinse well with water. Call a POISON CENTER or doctor/ physician.

In case of eye contact

Rinse with plenty of water. If easy to do, remove contact lens, if worn. Call a POISON CENTER or doctor/ physician.

If swallowed

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

May explode in fire. Take care as it may decompose upon combustion or in high temperatures to generate poisonous fume.

Specific extinguishing methods

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

Special protective equipment for fire-fighters

Use personal protective equipment.

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. 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

Pick up and arrange disposal without creating dust.

SECTION 7: Handling and storage

Handling

Technical measures

Prevent dispersion of dust. Take precautionary measures against static discharge. Use explosion-proof equipment.

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. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wash hands and face thoroughly after handling.

Avoidance of contact

Oxidizing agents

Storage

Conditions for safe storage

Keep container tightly closed. Store in a cool and shaded area. Use explosion-proof equipment. Store locked up. Avoid shock and friction. Avoid exposure to light.

SECTION 8: Exposure controls/personal protection

Ingredients with workplace control parameters

Components	CAS RN	Value type (Form of ex- posure)	Control parameters / Permissible con- centration	Basis
N,N-Dimethylformamide	68-12-2	PC-TWA	20 mg/m3	CN OEL
	Further information: G2A - Probably carcinogenic to humans, Skin			
		TWA	5 ppm	ACGIH

Components CAS RN Value type Control parameters Basis (Form of ex- / Permissible conposure) centration

N,N-Dimethylformamide 68-12-2 PC-TWA 20 mg/m3 CN OEL

Further information

G2A - Probably carcinogenic to humans, Skin

TWA 5 ppm ACGIH

Engineering measures

Install a closed system or local exhaust.

Also install safety shower and eye bath.

Personal protective equipment

Respiratory protection

Dustproof 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

solid

Color

white - yellow

Odor

No data available

Odor Threshold

No data available

pH

No data available

Melting point/freezing point

291 °C

Boiling point/boiling range

481.79°C (rough estimate)

Flash point

No data available

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

Solubility(ies)

Water solubility

No data available

Solubility in other solvents

No data available

Partition coefficient: n-octanol/water (log value)

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

347.20 g/mol

Density and/or relative density

1.5802 (rough estimate)

Physical state

powder to crystal

SECTION 10: Stability and reactivity

Reactivity

No data available

Chemical stability

Stable under normal conditions.

Possibility of hazardous reactions

May explosively decompose on heating, shock, friction, etc.

Conditions to avoid

Heat. Electrical spark Open flame Electrostatic discharge Avoid shock and friction. Exposure to light.

Incompatible materials

Oxidizing agents

Hazardous decomposition products

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

SECTION 11: Toxicological information

Acute toxicity

Product

Acute oral toxicity

Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method

Acute inhalation toxicity

Acute toxicity estimate: > 10 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method

Acute dermal toxicity

Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method

Components

N,N-Dimethylformamide

Acute oral toxicity

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

Skin corrosion/irritation

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

Serious eye damage/eye irritation

Components

N,N-Dimethylformamide

Result

Mild eye irritation

Respiratory or skin sensitization

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

Germ cell mutagenicity

Components

N,N-Dimethylformamide

Germ cell mutagenicity - Assessment

Suspected of inducing heritable mutations in the germ cells of humans.

Carcinogenicity

Components

N,N-Dimethylformamide

Carcinogenicity - Assessment

Presumed to have carcinogenic potential for humans

Reproductive toxicity

Components

N,N-Dimethylformamide

Reproductive toxicity - Assessment

Presumed human reproductive toxicant

STOT-single exposure

Components

N,N-Dimethylformamide

Target Organs

Liver

Assessment

Causes damage to organs.

Target Organs

Respiratory system

Assessment

May cause damage to organs.

STOT-repeated exposure

Components

N,N-Dimethylformamide

Target Organs

Liver

Assessment

Causes damage to organs through prolonged or repeated exposure.

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.

RTECS No.

FE6325000 (1,3,6,8-Tetranitrocarbazole) LQ2100000 (N,N-Dimethylformamide)

SECTION 12: Ecological information

Ecotoxicity

Components:

N,N-Dimethylformamide:

toxicity)

Toxicity to fish

LC50 (Oryzias latipes (Japanese medaka)): > 100 mg/l Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 1,000 mg/l Exposure time: 48 h

Toxicity to algae/aquatic plants

EC50 (Selenastrum capricornutum (green algae)): > 1,000 mg/l Exposure time: 72 h NOEC (Selenastrum capricornutum (green algae)): > 1,000 mg/l Exposure time: 72 h

Toxicity to fish (Chronic toxicity)

NOEC (Oryzias latipes (Japanese medaka)): > 100 mg/l Exposure time: 21 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

NOEC (Daphnia magna (Water flea)): > 1,000 mg/l Exposure time: 21 d

Persistence and degradability

Components:

N,N-Dimethylformamide:

Biodegradability

Biochemical oxygen demand Result: Not biodegradable Biodegradation: 4.4 %

Bioaccumulative potential

Components:

N,N-Dimethylformamide:

octanol/water (log value)

Bioaccumulation

Bioconcentration factor (BCF): 0.3 - 0.8 Concentration: 20 ppm Bioconcentration factor (BCF): 0.3 - 1.2 Concentration: 2 ppm

Partition coefficient: noctanol/water (log value)

-1.01

Mobility in soil

Components:

N,N-Dimethylformamide:

tal compartments

Distribution among environmental compartments

Koc: 1

Other adverse effects

No data available

SECTION 13: Disposal considerations

Disposal methods

Waste from residues

Disposal in accordance with local and national regulations. Take precautions against ignition or explode. 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

Not permitted for transport

IMDG-Code

UN number

UN 3380

Proper shipping name

DESENSITIZED EXPLOSIVE, SOLID, N.O.S.

Class

4.1

Packing group

I

EmS Code

F-B, S-J

Domestic regulation

GB 6944/12268

UN number

UN 3380

Proper shipping name

DESENSITIZED EXPLOSIVE, SOLID, N.O.S.

Class

4.1

Packing group

I

SECTION 15: Regulatory information

Measures on the Environmental Administration of New Chemical Substances Registration

Registration/Notification number

B1A232215743

Downstream users need to comply with the conditions of safe use of the chemical, understand the environmental and health hazard and risk management measures identified on the SDS as well as the local/national regulations concerning the chemical.

The ingredients of this product are reported in the following inventories

TCSI

On the inventory, or in compliance with the inventory

TSCA

All substances listed as active on the TSCA inventory

AIIC

Not in compliance with the inventory

DSL

This product contains the following components listed on the Canadian NDSL. All other components are on the Canadian DSL.

1,3,6,8-Tetranitrocarbazole

ENCS

Not in compliance with the inventory

ISHL

Not in compliance with the inventory

KECI

Not in compliance with the inventory

PICCS

Not in compliance with the inventory

IECSC

Not in compliance with the inventory

NZIoC

Not in compliance with the inventory

TECI

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