Chemical Safety Data Sheet MSDS / SDS

2-nitronaphthalene SDS

Revision Date:2024-04-25 Revision Number:1

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

Product identifier

Product name: 2-nitronaphthalene

CAS: 581-89-5

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.in

Address: 5 vasavi Layout Basaveswara Nilayam Pragathi Nagar Hyderabad, India -500090

Telephone: +91 9550333722

SECTION 2: Hazards identification

Classification of the substance or mixture

Carcinogenicity, Category 1B
Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 2

GHS label elements, including precautionary statements

Pictogram(s)

Signal word Danger

Hazard statement(s)

H350 May cause cancer
H411 Toxic to aquatic life with long lasting effects

Precautionary statement(s)

Prevention

P203 Obtain, read and follow all safety instructions before use.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
P273 Avoid release to the environment.

Response

P318 IF exposed or concerned, get medical advice.
P391 Collect spillage.

Storage

P405 Store locked up.

Disposal

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

Substance

Chemical name:	2-nitronaphthalene
Common names and synonyms:	2-nitronaphthalene
CAS number:	581-89-5
EC number:	209-474-5
Concentration:	100%

SECTION 4: First aid measures

Description of necessary first-aid measures

If inhaled

Fresh air, rest. Refer for medical attention.

Following skin contact

Rinse and then wash skin with water and soap.

Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

Following ingestion

Rinse mouth. Give a slurry of activated charcoal in water to drink. Refer for medical attention .

Most important symptoms/effects, acute and delayed

Exposure Routes: inhalation, skin absorption, ingestion, skin and/or eye contact Symptoms: Irritation skin, respiratory system; dermatitis; [potential occupational carcinogen] Target Organs: Skin, respiratory system (NIOSH, 2016)

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

no data available

SECTION 5: Firefighting measures

Suitable extinguishing media

Excerpt from ERG Guide 133 [Flammable Solids]: SMALL FIRE: Dry chemical, CO2, sand, earth, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Fire Involving Metal Pigments or Pastes (e.g. "Aluminum Paste") Aluminum Paste fires should be treated as a combustible metal fire. Use DRY sand, graphite powder, dry sodium chloride-based extinguishers, G-1? or Met-L-X? powder. Also, see ERG Guide 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2016)

Specific hazards arising from the chemical

Excerpt from ERG Guide 133 [Flammable Solids]: Flammable/combustible material. May be ignited by friction, heat, sparks or flames. Some may burn rapidly with flare-burning effect. Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence. Substance may be transported in a molten form at a temperature that may be above its flash point. May re-ignite after fire is extinguished. (ERG, 2016)

Special protective actions for fire-fighters

Use water in large amounts, foam, alcohol-resistant foam, carbon dioxide.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Personal protection: P2 filter respirator for harmful particles.

Environmental precautions

Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Personal protection: P2 filter respirator for harmful particles.

Methods and materials for containment and cleaning up

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

SECTION 7: Handling and storage

Precautions for safe handling

NO open flames. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

Conditions for safe storage, including any incompatibilities

Well closed.

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational Exposure limit values

MAK: carcinogen category: 2

Biological limit values

no data available

Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

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

Eye/face protection

Wear safety goggles.

Skin protection

Protective gloves.

Respiratory protection

Use local exhaust or breathing protection.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state:	2-nitronaphthalene is a yellow crystalline solid. Mp: 76°C; bp: 315°C. Insoluble in water. Very soluble in ethyl alcohol and in diethyl ether. Toxic to aquatic organisms, may cause long-term adverse effects in the environment.
Colour:	no data available
Odour:	no data available
Melting point/freezing point:	65-73°C
Boiling point or initial boiling point and boiling range:	319.6°C at 760 mmHg
Flammability:	Combustible Solid
Lower and upper explosion limit/flammability limit:	no data available
Flash point:	158.7°C
Auto-ignition temperature:	no data available
Decomposition temperature:	no data available
pH:	no data available
Kinematic viscosity:	no data available
Solubility:	Insoluble (NIOSH, 2016)
Partition coefficient n-octanol/water:	2.78
Vapour pressure:	kPa at 25°C: 0.000032

Density and/or relative density:	1.279 g/cm3
Relative vapour density:	(air = 1): 5.89
Particle characteristics:	no data available

SECTION 10: Stability and reactivity

Reactivity

Decomposes on burning. This produces toxic fumes.

Chemical stability

no data available

Possibility of hazardous reactions

2-NITRONAPHTHALENE is non-flammable but combustible (flash point 160°C). Dust forms explosive mixtures with air. Heating or burning releases toxic and corrosive gases. Incompatible with strong oxidizing agents. Can serve as an oxidizing agent and so react with reducing agents such as hydrides, sulfides and nitrides. Such reactions may be vigorous and may culminate in a detonation. May explode in the presence of strong bases such as sodium or potassium hydroxide even in the presence of water or organic solvents.

Conditions to avoid

no data available

Incompatible materials

For "Nitrates" in general: Aluminum, cyanides, esters, phosphorus, tin chlorides, thiocyanates, sodium hypophosphite

Hazardous decomposition products

no data available

SECTION 11: Toxicological information

Acute toxicity

Oral: no data available

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

IARC-3, NIOSH-Ca

Reproductive toxicity

no data available

STOT-single exposure

The substance may cause effects on the blood. This may result in the formation of methaemoglobin. Medical observation is indicated. The effects may be delayed.

STOT-repeated exposure

no data available

Aspiration hazard

Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly when dispersed, especially if powdered.

SECTION 12: Ecological information

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

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

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.

SECTION 14: Transport information

UN Number

ADR/RID: UN2538 (For reference only, please check.)
IMDG: UN2538 (For reference only, please check.)
IATA: UN2538 (For reference only, please check.)

UN Proper Shipping Name

ADR/RID: NITRONAPHTHALENE (For reference only, please check.)
IMDG: NITRONAPHTHALENE (For reference only, please check.)
IATA: NITRONAPHTHALENE (For reference only, please check.)

Transport hazard class(es)

ADR/RID: 4.1 (For reference only, please check.)
IMDG: 4.1 (For reference only, please check.)
IATA: 4.1 (For reference only, please check.)

Packing group, if applicable

ADR/RID: III (For reference only, please check.)
IMDG: III (For reference only, please check.)
IATA: III (For reference only, please check.)

Environmental hazards

ADR/RID: Yes
IMDG: Yes
IATA: Yes

Special precautions for user

no data available

Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

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

European Inventory of Existing Commercial Chemical Substances (EINECS)

Listed.

EC Inventory

Listed.

United States Toxic Substances Control Act (TSCA) Inventory

Not Listed.

China Catalog of Hazardous chemicals 2015

Listed.

New Zealand Inventory of Chemicals (NZIoC)

Not Listed.

(PICCS)

Not Listed.

Vietnam National Chemical Inventory

Not Listed.

IECSC)

Not Listed.

Korea Existing Chemicals List (KECL)

Not Listed.

SECTION 16: Other information

Abbreviations and acronyms

CAS: Chemical Abstracts Service

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

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

References

IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home

HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm

IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en

CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple

ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg

Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp

ECHA - European Chemicals Agency, website: https://echa.europa.eu/

Other Information

Specific treatment is necessary in case of poisoning with this substance; the appropriate means with instructions must be available. Insufficient data are available on the effect of this substance on human health, therefore utmost care must be taken. Similar substances cause bladder tumours in humans. See ICSC 0610.