

Chemical Safety Data Sheet MSDS / SDS

Dexamethasone 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: Dexamethasone
CAS: 50-02-2

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**

Reproductive toxicity, Category 2
Specific target organ toxicity - repeated exposure, Category 2

GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Warning

Hazard statement(s)

H361 Suspected of damaging fertility or the unborn child

H373 May cause damage to organs through prolonged or repeated exposure

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/...

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

Response

P318 IF exposed or concerned, get medical advice.

P319 Get medical help if you feel unwell.

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:	Dexamethasone
Common names and synonyms:	Dexamethasone
CAS number:	50-02-2
EC number:	200-003-9
Concentration:	100%

SECTION 4: First aid measures

Description of necessary first-aid measures

If inhaled

Fresh air, rest. Half-upright position. Refer immediately for medical attention.

Following skin contact

Rinse skin with plenty of water or shower. Seek medical attention if you feel unwell.

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. Do NOT induce vomiting. Give one or two glasses of water to drink. Refer immediately for medical attention.

Most important symptoms/effects, acute and delayed

SYMPTOMS: Symptoms of exposure to this type of compound include fluid and electrolyte disturbances, pituitary-adrenal suppression, hyperglycemia, increased susceptibility to infection including tuberculosis, myopathy, growth arrest, hypokalemic alkalosis and Cushing's syndrome consisting of "moon-face", "buffalo-hump", striae, acne and hirsutism. Other symptoms of Cushing's syndrome include enlargement of supraclavicular fat pads, "central obesity" and ecchymoses. Flushing and increased bruising may also occur with this syndrome. Other symptoms of exposure include behavioral disturbances, glycosuria, nervousness, changes in mood or psyche, psychopathies of the manic-depressive or schizophrenic type and suicidal tendencies. Exposure may cause candidiasis, gluconeogenesis, cardiac failure (in extreme cases), spontaneous fractures, increased appetite, delayed wound healing, hyperhidrosis, mental and neurological disturbances, intracranial hypertension and increase in coagulability of the blood. It may also cause peptic ulceration with perforation or hemorrhage, amenorrhea, aseptic necrosis of the bone, muscular weakness, salt and water retention, hypertension, edema, increase in severity of diabetes, pancreatitis, thrombotic episodes and osteoporosis. Other symptoms of exposure to this type of compound include sleeplessness, skin eruptions, depression, euphoria, decrease in pain

sensation, weakness, deafness, convulsions, intestinal perforation in ulcerative colitis, hypokalemia, muscle degeneration, rupture of the Achilles tendon, pseudotumor cerebri and cardiac conduction defect. It may cause congestive heart failure, suppression of the immune response mechanism, impairment of glucose tolerance, habituation and unmasking of latent psychiatric disorder. It may also cause potassium loss, loss of muscle mass, vertebral compression fractures, abdominal distention, ulcerative esophagitis, thin and fragile skin, petechiae, erythema, increased sweating, suppressed reactions to skin tests, allergic dermatitis, urticaria, angioneurotic edema, vertigo, headache, menstrual irregularities, secondary adrenocortical and pituitary unresponsiveness, decreased carbohydrate tolerance, exophthalmos, hypersensitivity, thromboembolism, malaise, weight gain, nausea and intracranial pressure with papilledema. Ascites may occur. Skin exposure to this type of compound may cause loss of skin collagen and subcutaneous atrophy. Other symptoms via this route include burning, secondary infections, itching, irritation, pigmentation, dryness, folliculitis and hypertrichosis. Eye exposure to this type of compound may lead to corneal ulceration, raised intraocular pressure, reduced visual function and cataracts. Glaucoma may also occur. ACUTE/CHRONIC HAZARDS: This compound may be harmful by inhalation, ingestion or skin absorption. It may cause irritation. It may cause lacrimation. When heated to decomposition it emits toxic fumes of carbon monoxide, carbon dioxide and hydrogen fluoride. (NTP, 1992)

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

Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR if necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on the left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. Poisons A and B

SECTION 5: Firefighting measures

Suitable extinguishing media

Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

Specific hazards arising from the chemical

Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)

Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Environmental precautions

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Sweep spilled substance into covered plastic containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations.

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

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

Separated from food and feedstuffs, acids and metals. See Chemical Dangers. Provision to contain effluent from fire extinguishing. Store in an area without drain or sewer access.

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational Exposure limit values

no data available

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 tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

Skin protection

Wear fire/flame resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. 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

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state:	PHYSICAL DESCRIPTION: Odorless white to off-white crystalline powder with a slightly bitter taste. (NTP, 1992)
Colour:	Crystals from ether
Odour:	no data available
Melting point/freezing point:	255-264°C
Boiling point or initial boiling point and boiling range:	568.2°C at 760 mmHg

Flammability:	Combustible. Gives off irritating or toxic fumes (or gases) in a fire.
Lower and upper explosion limit/flammability limit:	no data available
Flash point:	297.5 °C
Auto-ignition temperature:	no data available
Decomposition temperature:	275 °C
pH:	no data available
Kinematic viscosity:	no data available
Solubility:	less than 1 mg/mL at 77° F (NTP, 1992)
Partition coefficient n-octanol/water:	no data available
Vapour pressure:	8.86X10 ⁻¹⁴ mm Hg at 25 deg C (est)
Density and/or relative density:	1.32 g/cm ³
Relative vapour density:	no data available
Particle characteristics:	no data available

SECTION 10: Stability and reactivity

Reactivity

Decomposes on heating above 275 °C . This produces toxic fumes. This generates fire and explosion hazard. Reacts with copper, lead, silver, mercury and carbon disulfide. This produces particularly shock-sensitive compounds. Reacts with acids. This produces toxic and explosive hydrogen azide. See Notes.

Chemical stability

Dexamethasone sodium phosphate ophthalmic solution should be stored in tight, light-resistant containers. Dexamethasone sodium phosphate

Possibility of hazardous reactions

See Notes. DEXAMETHAZONE may be sensitive to prolonged exposure to light. This chemical is incompatible with strong oxidizers, strong acids, acid chlorides and acid anhydrides. Oxidation may occur with bases. (NTP, 1992)

Conditions to avoid

no data available

Incompatible materials

CHEMICAL PROFILE: An azide is a compound of hydrogen or a metal and the monovalent triatomic nitrogen anion. All azide salts and the acid are unstable and some decompose explosively. Extremely dangerous, shock or heat may explode them. If exposed to carbon disulfide, they form violently explosive salts. They can be sensitized by metal salts (especially heavy metal salts such as silver chloride etc.) or by traces of strong acids. They decompose explosively if heated or on impact. [Sax, 9th ed., 1996, p. 298]. (REACTIVITY, 1999)

Hazardous decomposition products

When heated to decomposition it emits toxic fumes of /hydrogen fluoride/.

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

TLV-A4

Reproductive toxicity

no data available

STOT-single exposure

no data available

STOT-repeated exposure

no data available

Aspiration hazard

no data available

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

An estimated BCF of 14 was calculated for dexamethasone(SRC), using a log Kow of 1.83(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).

Mobility in soil

The Koc of dexamethasone is estimated as 240(SRC), using a log Kow of 1.83(1) and a regression-derived equation(2). According to a classification scheme(3), this estimated Koc value suggests that dexamethasone is expected to have moderate mobility in soil.

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: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

UN Proper Shipping Name

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

Transport hazard class(es)

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

Packing group, if applicable

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

Environmental hazards

ADR/RID: No

IMDG: No

IATA: No

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

Listed.

China Catalog of Hazardous chemicals 2015

Not Listed.

New Zealand Inventory of Chemicals (NZIoC)

Listed.

(PICCS)

Listed.

Vietnam National Chemical Inventory

Listed.

IECSC)

Listed.

Korea Existing Chemicals List (KECL)

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/>

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