Safety Data Sheet (SDS) According to the OSHA Hazard Communication Standard 29 CFR 1910.1200

Issuing Date: 2015-01-16 **Revision Date:** 2017-08-08 **Version:** 2

SECTION 1. Identification

Product identifier

Product No 14776
Product name Dexamethasone

Recommended use of the chemical and restrictions on use

Identified uses This product is intended for research purposes only.

Manufacturer, importer, supplier

Manufacturer address Cell Signaling Technology, Inc.
3 Trask Lane
Danvers, MA 01923
United States
TEL: +1 978 867 2300
FAX: +1 978 867 2400
Website www.cellsignal.com
Email address support@cellsignal.com
Emergency telephone number In case of emergency call CHEMTREC 1-800-424-9300

SECTION 2. Hazard(s) identification

Classification

This substance/mixture is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Reproductive toxicity	Category 1B
Specific target organ toxicity - repeated exposure (STOT RE)	Category 2

GHS Label elements, including precautionary statements

Signal Word
Danger

Hazard statement(s)
May damage fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure.

Precautionary Statement(s)
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Do not breathe dust/fume/gas/mist/vapors/spray.

IF exposed or concerned: Get medical advice/attention.
Store locked up.
Dispose of contents/container to an approved waste disposal plant.

Supplementary Hazard Information

No information available.
Hazards not otherwise classified (HNOC)
Not applicable.

SECTION 3. Composition/information on ingredients

Formula $C_{22}H_{29}FO_5$
Molecular Weight 392.5 g/mol
Chemical nature Monoconstituent substance
Synonyms Dexamethasone;
Fluormethylprednisolone;
Pregna-1,4-diene-3,20-dione, 9-fluoro-11,17,21-trihydroxy-16-methyl-, (11ß,16a)-

Chemical Name	CAS No	Weight %
dexamethasone	50-02-2	100

SECTION 4. First-aid measures

Eye contact Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing.
Skin contact Immediate medical attention is required. Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.
Inhalation Immediate medical attention is required. Move to fresh air. If not breathing, give artificial respiration.
Ingestion Do NOT induce vomiting. Immediate medical attention is required. Never give anything by mouth to an unconscious person. Drink plenty of water.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Advice for emergency responders

General advice Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.
Protection of first-aiders Use personal protective equipment. Avoid contact with skin, eyes and clothing.

SECTION 5. Fire-fighting measures

Extinguishing media

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable Extinguishing Media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical

No information available.

Explosion Data

Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Ensure adequate ventilation.
Other information No information available.

Environmental precautions

Do not flush into surface water or sanitary sewer system.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.
Methods for cleaning up Use personal protective equipment. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. Take up mechanically and collect in suitable container for disposal. Avoid dust formation. Clean contaminated surface thoroughly.

SECTION 7. Handling and storage

Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions Keep containers tightly closed in a dry, cool and well-ventilated place.
Packaging material No information available.
Incompatible products None known based on information supplied.

SECTION 8. Exposure controls/personal protection

Control parameters

Appropriate engineering controls

Showers, eyewash stations, and ventilation systems.

Individual protection measures, such as personal protective equipment

Personal protective equipment (PPE) needs to be selected depending on the implemented engineering controls, frequency/duration of work activities and the concentrations of the hazardous substance.

Eye/face protection Tightly fitting safety goggles.
Skin and body protection Wear protective gloves/clothing.
Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be

	provided in accordance with current local regulations.
Hygiene measures	When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Keep away from food, drink and animal feeding stuffs.

SECTION 9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Solid		
Appearance	Crystalline powder	**Color**	White, light cream
Odor	Slight	**Odor Threshold**	No information available

Property	**Values**	**Remarks Method**
pH	No information available	
Melting point/freezing point	262-264 °C	
Initial boiling point and boiling range		
Flash point		
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Upper flammability limit	No information available	
Lower flammability limit	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Relative density	No information available	
Solubility	Soluble in water @ 89.0 mg/mL	@ 25 °C soluble
Solubility in other solvents	No information available.	
Partition coefficient: n-octanol/water	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Viscosity	No information available	
Viscosity, dynamic	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

Other information

Softening point	No information available
Molecular Weight	392.5 g/mol
VOC content	No information available
Density	No information available.
Bulk Density VALUE	No information available.

SECTION 10. Stability and reactivity

Reactivity

No information available.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

Hazardous reactions	None under normal processing.
Hazardous polymerization	None under normal processing.

Conditions to Avoid

No information available.

Incompatible Materials

None known based on information supplied.

Hazardous Decomposition Products

None under normal use. May emit toxic fumes under fire conditions. Hydrogen fluoride.

SECTION 11. Toxicological information

Information on likely routes of exposure

Inhalation	Inhalation of particulates may cause mechanical irritation to upper respiratory tract.
Eye contact	Contact with eyes may cause mechanical irritation.
Skin contact	May be absorbed through the skin in harmful amounts.
Ingestion	Target Organ Effects. Reproductive Toxicity.

Information on toxicological effects

This material should only be handled by, or under the close supervision of, those properly qualified in the handling and use of potentially hazardous chemicals. It should be borne in mind that the toxicological and physiological properties of this compound is not well defined.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
dexamethasone	3 g/kg (Rat)	-	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Symptoms	No information available.
Sensitization	No information available.
Mutagenic effects	Not mutagenic in AMES Test. Negative in the mouse micronucleus test.
Carcinogenicity	No component of this product present at levels greater than or equal to 0.1% is identifiable as probable, possible or confirmed carcinogen by IARC, ACGIH, NTP, or OSHA.
Reproductive toxicity	Glucocorticoids may cause fetal damage when administered to pregnant women. One retrospective study of 260 women who received pharmacologic dosages of glucocorticoids during pregnancy revealed 2 instances of cleft palate, 8 stillbirths, 1 spontaneous abortion, and 15 premature births. Another study reported 2 cases of cleft palate in 86 births. Occurrence of cleft palate in these studies is higher than in the general population but could have resulted from the underlying diseases as well as from the steroids. Other fetal abnormalities that have been reported following glucocorticoid administration in pregnant women include hydrocephalus and gastroschisis. Topical ocular administration of 0.15% dexamethasone (0.375 mg/kg/day) on gestational days 10 to 13 produced embryofetal lethality and a high incidence of cleft palate in mice. In rabbits, topical ocular administration of 0.1% dexamethasone throughout organogenesis (0.13 mg/kg/day, on gestational day 6 followed by 0.20 mg/kg/day on gestational days 7-18) produced intestinal anomalies, intestinal aplasia, gastroschisis and hypoplastic kidneys. In oral teratogenicity studies with rats using dose levels ranging from 10 to 1250/kg bw/day, maternal toxicity was found at 50 µg/kg bw/day and above. At doses at and above 1000 µg/kg bw/day, dexamethasone caused structural malformations (hydrops fetalis, cleft palate). Thymus involution and a decrease in body weight were observed in fetuses, resulting in an overall NOEL for embryotoxicity in rats of 10 µg/kg bw/day.
STOT - single exposure	No information available.
STOT - repeated exposure	Following repeated oral administration of dexamethasone to rats and dogs in short-term toxicity studies the main target organs were the thymus and the adrenal gland. Corticosteroid concentrations in plasma and hepatic glycogen were reduced, whereas serum lipid levels were increased. In rats dosed orally with 0.3, 1, 3, 10, 30, or 100 µg dexamethasone/kg bw/day for 90 days, thymus involution and morphological changes in the adrenal gland and a decrease in corticosterone and white blood cell counts were observed in male and female rats at doses above 10 µg/kg bw/day.

Target Organ Effects	Liver, Thymus, Reproductive system, Endocrine system.
Neurological effects	No information available.
Aspiration Hazard	No information available.

SECTION 12. Ecological information

Ecotoxicity

Persistence and degradability	No information available.
Bioaccumulation	Not likely to bioaccumulate.
Mobility	Is predicted to have low mobility in the environment

Chemical Name	Octanol-Water Partition Coefficient
dexamethasone	1.83

Other adverse effects

No information available.

SECTION 13. Disposal considerations

Waste Disposal Methods

Should not be released into the environment.

Disposal considerations

Do not empty into drains; dispose of this material and its container in a safe way.

SECTION 14. Transport information

This material is not subject to regulation as a hazardous material for shipping.

SECTION 15. Regulatory information

North American Inventory Listing

Chemical Name	TSCA 8(b)	TSCA 12(b)	DSL	NDSL
dexamethasone	Listed	Not Listed	Not Listed	Listed

Canadian Workplace Hazardous Materials Information System (WHMIS) Classification

(Bad file name)	Class D2A - Very Toxic Material at >= 0.1%

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard	No
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No

Reactive Hazard	No

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated under applicable state right-to-know regulations

U.S. FIFRA Label Information

This product does not contain any substances regulated as pesticides.

US Commerce Department - Export Administration Regulations Information

This product does not contain any substances regulated under the Chemical Weapons Convention (CWC).

U.S. Drug Enforcement Administration Information

This product does not contain any substances regulated under the DEA.

SECTION 16. Other information

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Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet