



CORTISOL (9,11,12,12-D4, 98%)

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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DLM-2218-0.1MG

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

1.1. Product identifier

Product form	: Substance
Substance name	: CORTISOL (9,11,12,12-D4, 98%)
EC-No.	: 200-020-1 (Unlabeled)
CAS-No.	: 73565-87-4
Product code	: DLM-2218-0.1MG
Formula	: C ₂₁ H ₂₆ D ₄ O ₅
Synonyms	: Kendall's compound F / 11Beta,17alpha,21-Trihydroxypregn-4-ene-3,20-dione / Reichstein's substance M / 17-Hydroxycorticosterone / 4-Pregnene-11beta,17alpha,21-triol-3,20-dione / Hydrocortisone

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

1.2.1. Relevant identified uses

Main use category	: Professional use
Industrial/Professional use spec	: For professional use only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Cambridge Isotope Laboratories, Inc.
50 Frontage Road
Andover, MA 01810
USA

USA: 1-800-322-1174 Int: 1-978-749-8000

cilsales@isotope.com www.isotope.com

Emergency telephone number

Emergency numbers:

Chemtrec: 1-800-424-9300 (24 hours)

International: 1-703-741-5970 (24 hours)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Repr. 2 H361

Full text of hazard classes and H-statements : see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Repr.Cat.3; R63

Full text of R-phrases: see section 16

GHS-US classification

Repr. 2 H361

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

Immune system, Pituitary, Adrenal cortex.

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2.2. Label elements

Labeling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS08

Signal word (CLP) :

Warning

Hazard statements (CLP) :

H361 - Suspected of damaging fertility. Suspected of damaging the unborn child. (in contact with skin, if inhaled, if swallowed)

Precautionary statements (CLP) :

P280 - Wear protective clothing, protective gloves.
P308+P313 - IF exposed or concerned: Get medical advice/attention.
P405 - Store locked up.
P501 - Dispose of contents/container to Comply with local regulations for disposal

GHS-US labeling

Hazard pictograms (GHS-US) :



GHS08

Signal word (GHS-US) :

Warning

Hazard statements (GHS-US) :

H361 - , Suspected of damaging the unborn child, Suspected of damaging fertility. (Dermal, Inhalation, oral)

Precautionary statements (GHS-US) :

P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P280 - Wear protective clothing, protective gloves.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P405 - Store locked up.
P501 - Dispose of contents/container to Comply with applicable regulations

2.3. Other hazards

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Name	Product identifier	%	Classification according to Directive 67/548/EEC
CORTISOL (9,11,12,12-D4, 98%)	(CAS-No.) 73565-87-4 (EC-No.) 200-020-1 (Unlabeled)	100	Repr.Cat.3; R63
Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
CORTISOL (9,11,12,12-D4, 98%)	(CAS-No.) 73565-87-4 (EC-No.) 200-020-1 (Unlabeled)	100	Repr. 2, H361

Full text of R- and H- phrases: see section 16

Name	Product identifier	%	GHS-US classification
CORTISOL (9,11,12,12-D4, 98%) (Main constituent)	(CAS-No.) 73565-87-4	100	Repr. 2, H361

Full text of H-phrases: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general

: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

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First-aid measures after inhalation	: If breathed in, move person to fresh air. If not breathing, give artificial respiration. Consult a physician.
First-aid measures after skin contact	: Wash off with soap and plenty of water. Consult a physician.
First-aid measures after eye contact	: Flush eyes with water as a precaution.
First-aid measures after ingestion	: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects	: Suspected of damaging fertility, Suspected of damaging the unborn child. (in contact with skin, if inhaled).
Symptoms/effects after inhalation	: May be harmful if inhaled. May cause respiratory tract irritation.
Symptoms/effects after skin contact	: May be harmful if absorbed through skin. May cause skin irritation.
Symptoms/effects after eye contact	: May cause eye irritation.
Symptoms/effects after ingestion	: May be harmful if swallowed.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Protection during firefighting : Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3. Methods and material for containment and cleaning up

For containment : Take up mechanically (sweeping, shoveling) and collect in suitable container for disposal.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep container tightly closed in a cool, dry and well-ventilated place.

Storage conditions : Store at room temperature away from light and moisture.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

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8.2. Exposure controls

Appropriate engineering controls : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment : Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus.



Materials for protective clothing : Wear suitable protective clothing and gloves.

Hand protection : Wear suitable protective clothing and gloves.

Eye protection : Wear safety glasses with side shields (or goggles) and a face shield.

Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection : When appropriate, use NIOSH/CEN approved respirator.

Environmental exposure controls : Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Crystalline
Molecular mass	: 366.49 g/mol (Labeled)
Color	: White
Odor	: Odourless
Odor threshold	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: 213 - 221 °C (415 - 430 °F)
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Solubility	: Water: 0.28 g/l at 25 °C (77 °F) - slightly soluble
Log Pow	: 1.61 - (Lit.), Bioaccumulation is not expected.
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosion limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Five years after receipt if stored as stated in "Storage" section. Re-QC after 5 years.

10.3. Possibility of hazardous reactions

Increased reactivity with: Strong oxidizing agents, Strong acids, Strong alkalis.

10.4. Conditions to avoid

Light.

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10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

Carbon oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

CORTISOL (9,11,12,12-D4, 98%) (73565-87-4)	
LD50 oral rat	5000 mg/kg LD50 Oral - Rat - Remarks: (RTECS) Inhalation: No data available
LD50 dermal rat	LD50 Dermal - Mouse - 23 mg/kg Remarks: (RTECS)

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : In vivo tests did not show mutagenic effects. Test Type: In vitro mammalian cell gene mutation test Test system: Chinese hamster lung cells Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476 Result: negative Test Type: unscheduled DNA synthesis assay Test system: rat hepatocytes Method: OECD Test Guideline 482 Result: negative Test Type: Mutagenicity (mammal cell test): chromosome aberration. Test system: Human lymphocytes Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 473 Result: positive Test Type: Ames test Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: positive Test Type: In vivo micronucleus test Species: Mouse Cell type: Bone marrow Application Route: Intraperitoneal injection Method: OECD Test Guideline 474 Result: negative

Carcinogenicity : Not classified

Reproductive toxicity : Suspected of damaging fertility. Suspected of damaging the unborn child. (in contact with skin, if inhaled, if swallowed).

Reproductive toxicity May damage the unborn child. Positive evidence from human epidemiological studies. Suspected of damaging fertility.

Specific target organ toxicity – single exposure : Not classified

Specific target organ toxicity – repeated exposure : Inhalation - Causes damage to organs through prolonged or repeated exposure. - Lungs
Aspiration hazard - No data available

Aspiration hazard : Not classified

Potential Adverse human health effects and symptoms : This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

Symptoms/effects after inhalation : May be harmful if inhaled. May cause respiratory tract irritation.

Symptoms/effects after skin contact : May be harmful if absorbed through skin. May cause skin irritation.

Symptoms/effects after eye contact : May cause eye irritation.

Symptoms/effects after ingestion : May be harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

CORTISOL (9,11,12,12-D4, 98%) (73565-87-4)	
EC50 other aquatic organisms 1	> 100 mg/l static test - Daphnia magna (Water flea) - 48 h (OECD Test Guideline 202)

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

CORTISOL (9,11,12,12-D4, 98%) (73565-87-4)	
Bioconcentration factor (BCF REACH)	Aerobic - Exposure time 22 d Result: ≥ 96 % - Readily biodegradable. (OECD Test Guideline 301E)
Log Pow	1.61 - (Lit.), Bioaccumulation is not expected.

12.4. Mobility in soil

No additional information available

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12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Other adverse effects : Avoid release to the environment. Disposal must be done according to official regulations.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Waste materials should be disposed of under conditions which meet Federal, State, and local environmental control regulations.
Product/Packaging disposal recommendations : Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.
Ecology - waste materials : Dispose of as unused product.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

Not applicable

14.2. UN proper shipping name

Not applicable

14.3. Additional information

Other information : No supplementary information available.
Special transport precautions : Not dangerous goods.

Overland transport

No additional information available

Transport by sea

No additional information available

Air transport

No additional information available

14.4. Environmental hazards

Other information : No supplementary information available.

14.5. Special precautions for user

Special transport precautions : Not dangerous goods.

14.6. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

CORTISOL (9,11,12,12-D4, 98%) (73565-87-4)	
SARA Section 302 Threshold Planning Quantity (TPQ)	SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313

15.2. International regulations

CANADA

CORTISOL (9,11,12,12-D4, 98%) (73565-87-4)
Listed on the Canadian DSL (Domestic Substances List)

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15.2.1. National regulations

No additional information available

15.3. US State regulations

CORTISOL (9,11,12,12-D4, 98%)(73565-87-4)	
U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No
State or local regulations	U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16: Other information

Other information : This product is not radioactive. The data given for this product are those of the corresponding unlabeled compound, unless specifically indicated otherwise. Health and safety data for labeled compounds are generally not available, but are assumed to be similar or identical to the corresponding unlabeled compound.

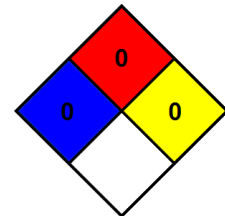
Full text of R-, H- and EUH-phrases:

Repr. 2	Reproductive toxicity Category 2
H361	Suspected of damaging fertility or the unborn child
R63	Possible risk of harm to the unborn child

NFPA health hazard : 0 - Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials.

NFPA fire hazard : 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating

Health : 0 Minimal Hazard - No significant risk to health

Flammability : 0 Minimal Hazard

Physical : 0 Minimal Hazard

CIL Substance SDS

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product