

SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH)

According to HSC 29 CFR 1910.1200 (g)

Document Number 001100

Revision 01

Revision Date 25.04.2022

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

1.1 Product identifiers

Product name: Hydrocortisone

CAS-No.: 50-23-7

CN Bio Part number: 005344

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

Identified uses: Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company: CN-Bio Innovations Ltd,
332 Cambridge Science Park.
Cambridge,
CB4 0WN

E-mail : support@cn-bio.com

1.4 Emergency telephone number

Emergency phone : +44 (0) 1223 737941 (09:00-17:00 UK time)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Reproductive toxicity (Category 1A), H360Df

Specific target organ toxicity - repeated exposure (Category 2), H373

For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Reproductive toxicity (Category 1A), H360 Specific target organ toxicity - repeated exposure (Category 2), H373

2.2 Label elements

Hazard pictogram



Signal word Danger

Signal word Danger

Hazard statement(s)

H360D May damage the unborn child.

Precautionary statement(s)

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.
Product identifier	Hydrocortisone, EC no. 200-020-1
Supplier details	CN-Bio Innovations Ltd, 332 Cambridge Science Park. Cambridge, CB4 0WN +44 (0) 1223 737941

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher or having endocrine disruptive properties.

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms:	Kendall's compound F 11 β ,17 α ,21-Trihydroxypregn-4-ene-3,20-dione Reichstein's substance M 17-Hydroxycorticosterone 4-Pregnene-11 β ,17 α ,21-triol-3,20-dione Cortisol
Formula:	C ₂₁ H ₃₀ O ₅
Molecular weight:	362.46 g/mol
CAS-No.:	50-23-7
EC-No.:	200-020-1

Component	Classification	Concentration
Hydrocortisone		
	STOT RE2; H373 Repr. 1A; H360Df	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

Inhalation

Remove to fresh air and keep patient at rest. Seek medical attention immediately.

Skin contact

Wash exposed area with soap and water, remove contaminated clothing and obtain medical assistance if irritation occurs. This material may not be completely removed by conventional laundering. Consult professional laundry service. Do not home launder.

Eye contact

Flush eye(s) immediately with plenty of water. If irritation occurs or persists, get medical attention.

Ingestion

Never give anything by mouth to an unconscious person. Wash out mouth with water. Do not induce vomiting unless directed by medical personnel. Seek medical attention immediately.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Extinguish fires with CO₂, extinguishing powder, foam, or water.

5.2 Special hazards arising from the substance or mixture

Formation of toxic gases is possible during heating or fire. May include oxides of carbon.

5.3 Fire / Explosion Hazards

Fine particles (such as dust and mists) may fuel fires/explosions.

5.4 Advice for firefighters

During all fire fighting activities, wear appropriate protective equipment, including self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personnel involved in clean-up should wear appropriate personal protective equipment. Minimize exposure. For personal protection see section 8.

6.2 Environmental precautions

Place waste in an appropriately labeled, sealed container for disposal. Care should be taken to avoid environmental release.

6.3 Methods and materials for containment and cleaning up

Measures for Cleaning / Collecting: Contain the source of spill if it is safe to do so. Collect spilled material by a method that controls dust generation. A damp cloth or a filtered vacuum should be used to clean spills of dry solids. Clean spill area thoroughly.

6.4 Additional Consideration for Large Spills

Non-essential personnel should be evacuated from affected area. Report emergency situations immediately. Clean up operations should only be undertaken by trained personnel.

6.5 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Ground and bond all bulk transfer equipment. Avoid open handling. Minimize dust generation. Use local exhaust ventilation or perform work under fume hood/fume cupboard. Avoid inhalation and contact with skin, eye, and clothing. When handling, use appropriate personal protective equipment. Wash hands and any exposed skin after removal of PPE. Releases to the

environment should be avoided. Review and implement appropriate technical and procedural wastewater and waste disposal measures to prevent occupational exposure or environmental releases. Potential points of process emissions of this material to the atmosphere should be controlled with dust collectors, HEPA filtration systems or other equivalent controls.

7.2 Conditions for safe storage, including any incompatibilities

Store at room temperature in properly labeled containers. Keep away from heat, sparks and flames.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Engineering controls

Engineering controls should be used as the primary means to control exposures. Use process containment, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits.

Personal protective equipment

Eye/face protection

Safety glasses with side-shields conforming to ANSI/ISEA Z87. Use equipment for eye protection tested and approved under appropriate government standards.

Skin protection

Handle with gloves category 3. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: KCL 741 Dermatrill® L

Body Protection

Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

If the applicable Occupational Exposure Limit (OEL) is exceeded, wear an appropriate respirator with a protection factor sufficient to control exposures to below the OEL.

Control of environmental exposure

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

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance	Form: liquid
b) Odour	odourless
c) Odour Threshold	No data available
d) pH	No data available
e) Melting point/freezing point range:	211 - 214 °C - lit
f) Initial boiling point and boiling range	No data available
g) Flash point	No data available
h) Evaporation rate	No data available
i) Flammability (solid, gas)	does not ignite - Flammability (solids)
j) Upper/lower flammability or explosive limits	No data available
k) Vapour pressure	No data available
l) Vapour density	No data available
m) Relative density	No data available
n) Water solubility	0.28 g/l at 25 °C
o) Partition coefficient: n-octanol/water	log Pow: 1.61 - (Lit.), Bioaccumulation is not expected
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	No data available
t) Oxidizing properties	No data available

Other safety information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

Light.

10.5 Incompatible materials

Strong oxidizing agents

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Other decomposition products - No data available

In the event of fire: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 5,000 mg/kg

Remarks: (RTECS)

Skin corrosion/irritation

Skin - Human

Result: slight irritation

Remarks: (RTECS)

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

Based on available data the classification criteria are not met. In vitro mammalian cell gene mutation test

Chinese hamster lung cells

Result: negative

unscheduled DNA synthesis assay

rat hepatocytes

Result: negative

OECD Test Guideline 474

Mouse - male and female - Bone marrow

Result: negative

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

May damage the unborn child

Reproductive toxicity

May damage the unborn child.

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Information on other hazards

This substance/mixture contains no components considered to have endocrine disruptive properties.

11.3 Additional Information

RTECS: GM8925000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Other dangerous properties cannot be excluded.

Handle in accordance with good industrial hygiene and safety practice

SECTION 12: Ecological information

12.1 Toxicity

No data available

Toxicity to daphnia and other aquatic invertebrates

static test EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h (OECD Test Guideline 202)

12.2 Persistence and degradability

Biodegradability

aerobic - Exposure time 28 d. Result: 96 % - Readily biodegradable. (OECD Test Guideline 301E)

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

Not applicable

12.6 Other adverse effects

Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

Contaminated packaging

Dispose of as unused product

SECTION 14: Transport information

14.1 UN number

ADR/RID: -

IMDG: -

IATA: -

14.2 UN proper shipping name

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA:

Not dangerous goods

14.3 Transport hazard class(es)

ADR/RID: -

IMDG: -

IATA: -

14.4 Packaging group

ADR/RID: -

IMDG: -

IATA: -

14.5 Environmental hazards

14.6 ADR/RID: no IMDG Marine pollutant: no IATA: no

14.7 Special precautions for user

No data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This safety datasheet complies with the requirements of the Carcinogens and Mutagens Directive (2004/37/EC) and the Directive 92/85/EEC on the introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers which have recently gave birth or are breastfeeding.

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

SARA 302 Components

This material does not contain any components with a section 302 EHS TPQ.

SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

No SARA Hazards

Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H360Df May damage the unborn child. Suspected of damaging fertility.

H373 May cause damage to organs through prolonged or repeated exposure.

Further information

The above information is believed to be correct but does not support to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. CN Bio Innovations shall not be held liable for any damage resulting from handling or from contact with the above product.