

SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY INFORMATION

Product name: Component H2

Contact:

Elixirgen Scientific, Inc.
855 N. Wolfe St., Suite 619
Baltimore, MD 21205
Phone: 443-869-5420
www.elixirgenscientific.com

SECTION 2: HAZARD IDENTIFICATION

GHS classification of the substance/mixture:

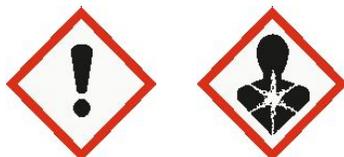
GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity, Oral (Category 4)
Acute toxicity Inhalation (Category 4)
Acute toxicity Dermal (Category 4)
Flammable liquids (Category 4), H227
Reproductive toxicity (Category 1B), H360D

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

GHS label elements, including precautionary statements:

Pictogram



Signal word Warning, Danger

Hazard statement(s)

H227 Combustible liquid.
H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled.
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.
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.

- P270 Do not eat, drink or smoke when using this product.
- P271 Use only outdoors or in a well-ventilated area.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
- P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.
- P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
- P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P308 + P313 IF exposed or concerned: Get medical advice/ attention.
- P312 Call a POISON CENTER or doctor/ physician if you feel unwell.
- P322 Specific measures (see supplemental first aid instructions on this label).
- P330 Rinse mouth.
- P363 Wash contaminated clothing before reuse.
- P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
- P403 + P235 Store in a well-ventilated place. Keep cool.
- P405 Store locked up.
- P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in the classification or are not covered by the GHS:
None.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS SUBSTANCE

Hazardous components

Component	Classification	Concentration
Dimethyl sulfoxide	Flam. Liq. 4: H227	<=100%
Dexamethasone	Repr. 1B; H360D	< 0.000001%
(1R,4r)-4-((R)-1-aminoethyl)-N-(pyridin-4-yl)cyclohexanecarboxamide dihydrochloride	Acute Tox. 4; H302 + H312 + H332	< 0.001%

SECTION 4: FIRST AID MEASURES

Description of necessary measures.

General advice

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

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Remove any contact lenses, locate eye-wash station, and flush eyes immediately with large amounts of water. Separate eyelids with fingers to ensure adequate flushing. Promptly call a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: FIRE-FIGHTING MEASURES**Suitable extinguishing media:**

For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

Specific hazards arising from the substance or mixture:

Carbon oxides, Sulphur oxides. During combustion, may emit irritant fumes.

Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

Further information

Use water spray to cool unopened containers.

SECTION 6: ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures:**

Avoid breathing vapours, mist or gas. Remove all sources of ignition. Beware of vapours

accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

Environmental precautions:

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

Methods and materials for containment and cleaning up:

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling:

Avoid inhalation of vapour or mist. Avoid contact with eyes and skin. Avoid dust and aerosol formation.

Provide appropriate exhaust ventilation at places where dust is formed.

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

For precautions see section 2.2.

Conditions for safe storage, including any incompatibilities:

Keep container tightly closed in a dry and well-ventilated place. Keep away from direct sunlight and sources of ignition. Light sensitive.

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

Control parameters:

Component	CAS-No.	Value	Control parameters	Basis
Dimethyl sulfoxide	67-68-5	TWA	250.00000 0 ppm	USA. Workplace Environmental Exposure Levels (WEEL)

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

Eye/face protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. 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.

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

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls.

If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

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

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Aqueous solution.
Odor:	No data available.
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	No data available.
Flash point:	No data available.
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Upper/lower flammability or explosive limits:	No data available.
Vapor pressure:	No data available.
Vapor density:	No data available.
Relative density:	No data available.
Solubility(ies):	No data available.
Partition coefficient: n-octanol/water:	No data available.
Auto-ignition temperature:	No data available.

Decomposition temperature:	No data available.
Viscosity:	No data available.
Explosive properties:	No data available.
Oxidizing properties:	No data available.

SECTION 10: STABILITY AND REACTIVITY

Reactivity:	No data available
Chemical stability:	Stable under recommended storage conditions.
Possibility of hazardous reactions:	No data available
Conditions to avoid:	Heat, flames, sparks, and moisture. Light.
Incompatible materials:	Acid chlorides, Phosphorus halides, strong acids/alkalis, strong oxidising/reducing agents.
Hazardous decomposition products:	Hazardous decomposition products formed under fire conditions. - may decompose and emit toxic fumes. Carbon oxides, Hydrogen fluoride In the event of fire: see section 5

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity:

Dimethyl sulfoxide

LD50 Oral - Rat - 14,500 mg/kg

LC50 Inhalation - Rat - 4 h - 40250 ppm

LD50 Dermal - Rabbit - > 5,000 mg/kg

Dexamethasone

LD50 Oral - Rat - > 3,000 mg/kg

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

Dimethyl sulfoxide

Mouse

lymphocyte

Cytogenetic analysis

Mouse

lymphocyte
Mutation in mammalian somatic cells.

Rat
Cytogenetic analysis

Mouse
DNA damage

Carcinogenicity

Dimethyl sulfoxide

Carcinogenicity - Rat - Oral

Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Skin and Appendages: Other: Tumors.

Carcinogenicity - Mouse - Oral

Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Leukaemia Skin and Appendages: Other: Tumors.

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.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

Dimethyl sulfoxide

Reproductive toxicity - Rat - Intraperitoneal

Effects on Fertility: Abortion.

Reproductive toxicity - Rat - Intraperitoneal

Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Reproductive toxicity - Rat - Subcutaneous

Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Effects on Fertility: Litter size (e.g.; # fetuses per litter; measured before birth).

Reproductive toxicity - Mouse - Oral

Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of implants per female;

total number of implants per corpora lutea). Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Musculoskeletal system.

Developmental Toxicity - Mouse - Intraperitoneal

Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Musculoskeletal system.

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

Dimethyl sulfoxide

RTECS: PV6210000

Effects due to ingestion may include:, Nausea, Fatigue, Headache

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

Eyes - Eye disease - Based on Human Evidence

Eyes - Eye disease - Based on Human Evidence

Dexamethasone

RTECS: TU3980000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated., fetal development, Blurred vision, frequent urination, Nausea, Vomiting, appetite change, Stomach/intestinal disorders, nervousness, sleep disorders, weight gain, Dizziness, facial flushing, Headache, sweating, Allergic reactions, prolonged or repeated exposure can cause:, acne, Skin disorders, bone pain, reddened eyes, photosensitivity of the eyes, Provokes tears., hypertension, menstrual irregularities, muscle weakness, local swelling, irregular heart rate, muscle cramps, muscle pain, tiredness, Weakness, insomnia, Back pain, pain in the legs, Abdominal pain, Blood in feces (black stool)

Liver - Irregularities - Based on Human Evidence

Liver - Irregularities - Based on Human Evidence

SECTION 12: ECOLOGICAL INFORMATION

Toxicity

Dimethyl sulfoxide

Toxicity to fish	LC50 - Pimephales promelas (fathead minnow) - 34,000 mg/l - 96 h LC50 - Oncorhynchus mykiss (rainbow trout) - 35,000 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 24,600 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	EC50 - Pseudokirchneriella subcapitata (green algae) - 17,000 mg/l - 72 h (OECD Test Guideline 201)

Persistence and degradability

Dimethyl sulfoxide

Biodegradability Result: 31 % - According to the results of tests of biodegradability this product is not readily biodegradable.
(OECD Test Guideline 301D)

Bioaccumulative potential

No data available

Mobility in soil

No data available

Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects

No data available

SECTION 13: DISPOSAL INFORMATION

Waste treatment methods

Product

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

SECTION 14: TRANSPORT INFORMATION

DOT (US)

NA-Number: 1993 Class: NONE Packing group: III

Proper shipping name: Combustible liquid, n.o.s. (Dimethyl sulfoxide) (Dimethyl sulfoxide)

IMDG

Not dangerous goods.

IATA

Not dangerous goods.

SECTION 15: REGULATORY INFORMATION**US Federal Regulations:****SARA 302 Components**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

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

Fire Hazard, Chronic Health Hazard

US State regulations:**Massachusetts Right To Know Components**

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Dimethyl sulfoxide	67-68-5	2007-03-01
Dexamethasone	50-02-2	

New Jersey Right To Know Components

	CAS-No.	Revision Date
Dimethyl sulfoxide	67-68-5	2007-03-01
Dexamethasone	50-02-2	

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16: OTHER INFORMATION

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

Dimethyl sulfoxide

Flam. Liq. Flammable liquids
H227 Combustible liquid.

HMIS Rating

Health hazard: 0
Chronic Health Hazard: *
Sigma - D2650 Page 8 of 8
Flammability: 2
Physical Hazard 0

NFPA Rating

Health hazard: 0
Fire Hazard: 2
Reactivity Hazard: 0
Further information

Dexamethasone

H360D May damage the unborn child.
Repr. Reproductive toxicity

HMIS Rating

Health hazard: 1
Chronic Health Hazard: *
Flammability: 0
Physical Hazard 0

NFPA Rating

Health hazard: 0
Fire Hazard: 0
Reactivity Hazard: 0

The information provided herein is based on sources believed to be reliable as of 2/2/2018 and pertains only to the material designated. Elixirgen Scientific, Inc. makes no warranty or representation to its completeness, accuracy, or currency, and assumes no liability resulting from its use. This material is intended for use by persons with pertinent technical skills for its intended use, the product's safe use, and the product's proper disposal. Disposal of hazardous material may be subjected to federal, state or local laws or regulations.

Restriction of use: For research use only.