

## > MATERIAL SAFETY DATA SHEET – RHINOHIDE GEL

### 1 - Product and Company Information

Product Name: ACRYLAMIDE POWDER

Product Number: 30-25-

Company: Severn Biotech Ltd.

Unit 2 Park Lane

Kidderminster

Worcs.

DY11 6TJ

United Kingdom

Phone: 01562 825286

Fax: 01562825284

### 2 - Composition/Information on Ingredients

Product Name Number	CAS #	EC no	Annex I Index
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ACRYLAMIDE	79-06-1	201-173-7	616-003-00-0
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Formula C<sub>3</sub>H<sub>5</sub>NO

Molecular Weight 71.08 AMU

Synonyms Acrylamide (ACGIH:OSHA) \* Acrylic amide \* Akrylamid (Czech) \* Amid  
kyseliny akrylove (Czech) \* Ethylenecarboxamide \* Propenamide \* 2-Propenamide  
(9CI) \* Propenoic acid amide \* RCRA waste number U007 \* Vinyl amide

### 3 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT

May cause cancer. May cause heritable genetic damage. Also harmful by inhalation and in contact with skin. Also toxic if swallowed. Irritating to eyes and skin. May cause sensitization by skin contact. Also toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed. Possible risk of impaired fertility.

Carc. Cat.2 Muta. Cat.2 Repr. Cat.3

### 4 - First Aid Measures

AFTER INHALATION

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

AFTER SKIN CONTACT

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

AFTER EYE CONTACT

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

AFTER INGESTION

If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

## **5 - Fire Fighting Measures**

### EXTINGUISHING MEDIA

Suitable: Carbon dioxide, dry chemical powder, or appropriate foam.

### SPECIAL RISKS

Specific Hazard(s): Emits toxic fumes under fire conditions. Explosion Hazards: Container explosion may occur under fire conditions.

### SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

## **6 - Accidental Release Measures**

### PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

### PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

### METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

## **7 - Handling and Storage**

### HANDLING

Directions for Safe Handling: Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

### STORAGE

Conditions of Storage: Keep tightly closed.

SPECIAL REQUIREMENTS: Light sensitive.

## **8 - Exposure Controls / Personal Protection**

### ENGINEERING CONTROLS

Use only in a chemical fume hood. Safety shower and eye bath.

### GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Wash thoroughly after handling.

### EXPOSURE LIMITS

Country Source Type Value

Poland NDS 0.1 MG/M3

Poland NDSCh -

Poland NDSP -

### EXPOSURE LIMITS - DENMARK

Source Type Value

OEL TWA 0.03 mg/m3

Remarks: HK

### EXPOSURE LIMITS - GERMANY

Source Type Value

TRGS 900 OEL 0.06 mg/m<sup>3</sup>

Remarks: 4

Remarks: H,TRK,7,29,TRGS 901-25

EXPOSURE LIMITS - NORWAY

Source Type Value

OEL 0.03 mg/m<sup>3</sup>

Remarks: HKM

EXPOSURE LIMITS - SWITZERLAND

Source Type Value

OEL OEL 0.03 mg/m<sup>3</sup>

Remarks: E H K

EXPOSURE LIMITS - UNITED KINGDOM

Source Type Value

OEL OEL 0.3 mg/m<sup>3</sup>

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N99 (US)

Or type P2 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.

Hand Protection: Compatible chemical-resistant gloves.

Eye Protection: Chemical safety goggles.

## 9 - Physical and Chemical Properties

Appearance Physical State: Solid

Property Value At Temperature or Pressure

pH 5.2 - 6.0 Concentration: 500 g/l

BP/BP Range 125 °C 25 mmHg

MP/MP Range 84 °C

Flash Point 138 °C Method: closed cup

Flammability N/A

Autoignition Temp 424 °C

Oxidizing Properties N/A

Explosive Properties N/A

Explosion Limits N/A

Vapor Pressure 1.6 mmHg 84.5 °C

SG/Density N/A

Partition Coefficient Log Kow: - 0.670

Viscosity N/A

Vapor Density 2.45 g/l

Saturated Vapor Conc. N/A

Evaporation Rate N/A

Bulk Density N/A

Decomposition Temp. N/A

Solvent Content N/A

Water Content N/A

Surface Tension N/A

Conductivity N/A

Miscellaneous Data N/A

Solubility Solubility in Water: clear, colorless 0.2 g/ml H<sub>2</sub>O, 20°C

## 10 - Stability and Reactivity

### STABILITY

Stable: Stable.

Conditions to Avoid: Air. Light.

Materials to Avoid: Avoid contact with acid., Oxidizing agents

Iron and iron salts., Copper, Brass, Free radical initiators

### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Ammonia.

### HAZARDOUS POLYMERIZATION

Hazardous Polymerization: May occur

Hazardous Polymerization Reactions: May polymerize on exposure to light.

## 11 - Toxicological Information

RTECS NUMBER: AS3325000

### ACUTE TOXICITY

LC50

Inhalation

Rat

> 1,500 mg/m<sup>3</sup>

4 H

LD50

Oral

Rat

124 mg/kg

LD50

Skin

Rat

400 mg/kg

Remarks: Biochemical: Enzyme inhibition, induction, or change in blood or tissue levels: Peptidases. Biochemical: Enzyme

inhibition, induction, or change in blood or tissue levels: Transaminases. Blood: Other changes.

LD50

Intraperitoneal

Rat

90 MG/KG

LD50

Oral

Mouse

107 mg/kg

LD50

Intraperitoneal

Mouse

170 MG/KG

LD50

Oral

Rabbit

150 mg/kg

LD50

Skin

Rabbit

1680 UL/KG

Remarks: Behavioral: Hallucinations, distorted perceptions.

LD50

Oral

Guinea pig

150 mg/kg

LD50

Subcutaneous

Guinea pig

170 MG/KG

Remarks: Behavioral: Tremor. Behavioral: Muscle contraction or spasticity.

Gastrointestinal: Nausea or vomiting.

LD50

Oral

Quail

186 mg/kg

Remarks: Peripheral Nerve and Sensation: Flaccid paralysis without anesthesia (usually neuromuscular blockage).

Behavioral: Altered sleep time (including change in righting reflex).

Behavioral: Change in motor activity (specific assay).

LD50

Oral

Mammal

100 mg/kg

#### IRRITATION DATA

Skin

Remarks: Moderate irritation effect

Skin

Rabbit

50 mg

3D

Remarks: Mild irritation effect

Skin

Rabbit

500 mg

24H

Remarks: Mild irritation effect

Eyes

Rabbit

10 mg

30S

Remarks: Rinsed

Eyes

Rabbit

100 mg

24H

Remarks: Moderate irritation effect

**SENSITIZATION**

Sensitization: Sensitizer.

Skin: May cause allergic skin reaction.

**SIGNS AND SYMPTOMS OF EXPOSURE**

Acrylamide toxicity is manifested as a sensorimotor peripheral neuropathy.

Symptoms include: drowsiness, loss of balance, confusion, memory loss, hallucinations, numbness, paresthesias

(ataxia, tremor, dysarthria), and incoordination.

**ROUTE OF EXPOSURE**

Skin Contact: Causes skin irritation.

Skin Absorption: Readily absorbed through skin. Toxic if absorbed through skin.

Eye Contact: Causes eye irritation.

Inhalation: Material may be irritating to mucous membranes and upper respiratory tract. Harmful if inhaled.

Ingestion: Toxic if swallowed.

**TARGET ORGAN INFORMATION**

Nerves. Kidneys.

**CHRONIC EXPOSURE - CARCINOGEN**

Result: This product is or contains a component that has been reported to be probably carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification.

Rat

Route of Application: Oral

Exposure Time: 2Y

Result: Tumorigenic Effects: Testicular tumors.

Tumorigenic: Carcinogenic by RTECS criteria.

Mouse

Route of Application: Intraperitoneal

Exposure Time: 8W

Result: Lungs, Thorax, or Respiration: Tumors.

Tumorigenic: Neoplastic by RTECS criteria.

Mouse

Route of Application: Oral

Exposure Time: 2W

Result: Skin and Appendages: Other: Tumors. Lungs, Thorax, or Respiration: Tumors. Tumorigenic: Carcinogenic by RTECS criteria.

Mouse

Route of Application: Intraperitoneal

Exposure Time: 8W

Result: Tumorigenic: Neoplastic by RTECS criteria. Lungs, Thorax, or Respiration: Tumors.

Rat

Route of Application: Oral

Exposure Time: 2Y

Result: Tumorigenic Effects: Uterine tumors

Tumorigenic: Carcinogenic by RTECS criteria.

Rat

Route of Application: Oral

Exposure Time: 2Y

Result: Skin and Appendages: Other: Tumors. Brain and Coverings: Tumors. Tumorigenic: Carcinogenic by RTECS criteria.

IARC CARCINOGEN LIST

Rating: Group 2A

CHRONIC EXPOSURE - MUTAGEN

Result: May alter genetic material.

Human

1 MMOL/L

Cell Type: mammary gland

Unscheduled DNA synthesis

Rat

100 MG/KG

Intraperitoneal

Micronucleus test

Rat

150 MG/KG

Oral

5D

Unscheduled DNA synthesis

Rat

1 MMOL/L

Cell Type: Other cell types

DNA inhibition

Rat

600 MG/KG

Oral

10D

Sister chromatid exchange

Rat

150 MG/KG

Oral

5D

Dominant lethal test

Mouse

50 MG/KG

Intraperitoneal

Micronucleus test

Mouse

300 MG/L (+S9)

Cell Type: lymphocyte

Mutation in microorganisms

Mouse

50 MG/KG

Intraperitoneal

specific locus test

Mouse

12500 UG/L

Cell Type: fibroblast

Morphological transformation.

Mouse

25 MG/L  
Cell Type: Embryo  
Morphological transformation.  
Mouse  
100 MG/KG  
Intraperitoneal  
DNA damage  
Mouse  
62500 UG/KG  
Intraperitoneal  
Unscheduled DNA synthesis  
Mouse  
500 PPM  
Oral  
2W  
Cytogenetic analysis  
Mouse  
750 MG/L  
Cell Type: lymphocyte  
Cytogenetic analysis  
Mouse  
100 MG/KG  
Intraperitoneal  
Cytogenetic analysis  
Mouse  
125 UG/KG  
Intraperitoneal  
Sister chromatid exchange  
Mouse  
120 MG/KG  
Intraperitoneal  
SLN  
Mouse  
125 MG/KG  
Intraperitoneal  
Dominant lethal test  
Mouse  
840 MG/KG  
Oral  
20W  
Dominant lethal test  
Mouse  
500 MG/L  
Cell Type: lymphocyte  
Mutation in mammalian somatic cells.  
Mouse  
100 MG/KG  
Intraperitoneal  
sperm  
Mouse  
96634 UG/KG

Oral  
4W  
sperm  
Mouse  
50 MG/KG  
Intraperitoneal  
Heritable translocation test  
Hamster  
150 MG/L  
Cell Type: lung  
Cytogenetic analysis  
Hamster  
500 MG/L  
Cell Type: fibroblast  
Cytogenetic analysis  
Hamster  
300 MG/L  
Cell Type: lung  
Sister chromatid exchange  
Hamster  
500 MG/L  
Cell Type: lung  
SLN  
CHRONIC EXPOSURE - TERATOGEN  
Species: Rat  
Dose: 400 MG/KG  
Route of Application: Intraperitoneal  
Exposure Time: (8D MALE)  
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).  
Effects on Newborn: Behavioral.  
Species: Mouse  
Dose: 225 MG/KG  
Route of Application: Intraperitoneal  
Exposure Time: (10-12D PREG)  
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).  
Specific Developmental Abnormalities:  
Musculoskeletal system.  
Species: Mouse  
Dose: 125 MG/KG  
Route of Application: Intraperitoneal  
Exposure Time: (1D PREG)  
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).  
Species: Mouse  
Dose: 300 MG/KG  
Route of Application: Intraperitoneal  
Exposure Time: (8-10D PREG)  
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).  
Species: Mammal  
Dose: 75 MG/KG  
Route of Application: Intraperitoneal  
Exposure Time: (12D PREG)

Result: Specific Developmental Abnormalities: Musculoskeletal system.

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Result: May cause reproductive disorders.

Species: Rat

Dose: 200 MG/KG

Route of Application: Oral

Exposure Time: (7-16D PREG)

Result: Effects on Newborn: Biochemical and metabolic.

Species: Rat

Dose: 560 MG/KG

Route of Application: Oral

Exposure Time: (6-21D PREG/10D POST)

Result: Maternal Effects: Parturition. Effects on Newborn: Stillbirth. Effects on

Newborn: Viability index (e.g., # alive at day 4 per # born alive).

Species: Rat

Dose: 75 MG/KG

Route of Application: Oral

Exposure Time: (5D MALE)

Result: Effects on Fertility: Male fertility index (e.g., # males impregnating females per # males exposed to fertile nonpregnant females).

Species: Rat

Dose: 140 MG/KG

Route of Application: Oral

Exposure Time: (2W PRE-3W POST)

Result: Effects on Newborn: Growth statistics (e.g., reduced weight gain).

Species: Rat

Dose: 150 MG/KG

Route of Application: Oral

Exposure Time: (5D MALE)

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

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

Species: Rat

Dose: 350 MG/KG

Route of Application: Intraperitoneal

Exposure Time: (7D MALE)

Result: Paternal Effects: Spermatogenesis (including genetic material, sperm morphology, motility, and count).

Species: Mouse

Dose: 571 MG/KG

Route of Application: Oral

Exposure Time: (16D MALE)

Result: Paternal Effects: Testes, epididymis, sperm duct.

Species: Mouse

Dose: 95 GM/KG

Route of Application: Oral

Exposure Time: (4W MALE)

Result: Paternal Effects: Spermatogenesis (including genetic material, sperm morphology, motility, and count).

Effects on Fertility: Male fertility index (e.g., # males impregnating females per # males exposed to fertile nonpregnant females).

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

Species: Mouse

Dose: 95 GM/KG

Route of Application: Oral

Exposure Time: (4W PRE)

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

Species: Mouse

Dose: 71 GM/KG

Route of Application: Oral

Exposure Time: (4W MALE)

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

Species: Mouse

Dose: 250 MG/KG

Route of Application: Intraperitoneal

Exposure Time: (5D MALE)

Result: Effects on Fertility: Male fertility index (e.g., # males impregnating females per # males exposed to fertile nonpregnant females). Effects on Fertility: Pre-implantation

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

Species: Mammal

Dose: 225 MG/KG

Route of Application: Intraperitoneal

Exposure Time: (10-12D PREG)

Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Effects on Embryo or Fetus: Fetal death.

CMR CAT.: Carc. Cat.2

## **12 - Ecological Information**

### ECOTOXICOLOGICAL EFFECTS

Test Type: LC50 Fish

Species: *Lepomis macrochirus* (Bluegill)

Time: 96 h

Value: 100 mg/l

Test Type: LC50 Fish

Species: *Onchorhynchus mykiss* (Rainbow trout)

Time: 96 h

Value: 180 mg/l

Test Type: LC50 Fish

Species: *Pimephales promelas* (Fathead minnow)

Time: 96 h

Value: 90 mg/l

Test Type: EC50 Daphnia

Species: Daphnia magna  
Time: 48 h  
Value: 160 mg/l  
Test Type: LC50 Fish  
Species: Carassius auratus (Goldfish)  
Time: 96 h  
Value: 160 mg/l

### **13 - Disposal Considerations**

#### **SUBSTANCE DISPOSAL**

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

### **14 - Transport Information**

RID/ADR  
UN#: 2074  
Class: 6.1  
PG: III  
Proper Shipping Name: Acrylamide  
IMDG  
UN#: 2074  
Class: 6.1  
PG: III  
Proper Shipping Name: ACRYLAMIDE, SOLID  
Marine Pollutant: No  
Severe Marine Pollutant: No  
IATA  
UN#: 2074  
Class: 6.1  
PG: III  
Proper Shipping Name: Acrylamide  
Inhalation Packing Group I: No

### **15 - Regulatory Information**

#### **CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES**

ANNEX I INDEX NUMBER: 616-003-00-0

NOTA: D,E

INDICATION OF DANGER: T

Toxic.

R-PHRASES: 45-46-20/21-25-36/38-43-48/23/24/25-62

May cause cancer. May cause heritable genetic damage. Also harmful by inhalation and in contact with skin. Also toxic if swallowed. Irritating to eyes and skin. May cause sensitization

by skin contact. Also toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed. Possible risk of impaired fertility.

S-PHRASES: 53-45

Restricted to professional users. Attention - Avoid exposure - obtain special instructions before use. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

COUNTRY SPECIFIC INFORMATION

Germany

WGK: 3

ID-Number: 716

KBwS-Decision

## **16 - Other Information**

### **WARRANTY**

The above information is believed to be correct but does not purport 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. Severn Biotech Ltd., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.

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