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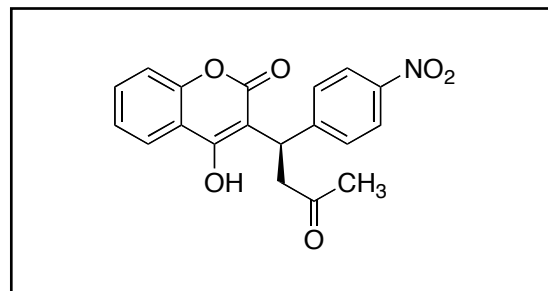
## 1. PRODUCT AND COMPANY IDENTIFICATION

**Chemical Name** (R)-Acenocoumarol

**Catalogue #** A130790

**Company** Toronto Research Chemicals  
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CANADA

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## 2. HAZARDS IDENTIFICATION

### WHMIS Classification

D1B Toxic Material Causing Immediate  
D2B and Serious Toxic Effects

Toxic by ingestion  
Moderate skin irritant  
Moderate respiratory irritant  
Moderate eye irritant

### HMIS Classification

Health hazard: 2  
Flammability: 0  
Physical hazards: 0

### Potential Health Effects

**Inhalation** May be harmful if inhaled. Causes respiratory tract irritation.  
**Skin** May be harmful if absorbed through skin. Causes skin irritation.  
**Eyes** Causes eye irritation.  
**Ingestion** Harmful if swallowed.

### GHS Classification

Acute toxicity, Oral (Category 4)  
Skin irritation (Category 2)  
Eye irritation (Category 2A)  
Specific target organ toxicity - single exposure (Category 3)

### GHS Label elements, including precautionary statements

Signal word Warning

### Hazard statements

H302 Harmful if swallowed.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.

### Precautionary statements

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P280 Wear protective gloves/ 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.  
P305/P351/P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy

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to do. Continue rinsing.

P312 Call a POISON CENTER or doctor/ physician if you feel unwell.

P332/P313 If skin irritation occurs: Get medical advice/ attention.

P337/P313 If eye irritation persists: Get medical advice/ attention.

#### GHS Label Pictograms



### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Molecular Formula:** C<sub>19</sub>H<sub>15</sub>NO<sub>6</sub>

**Molecular Weight:** 353.33

**CAS Registry #:** 66556-77-2

**EC#:**

**Synonyms:**

(R)-4-Hydroxy-3-[1-(4-nitrophenyl)-3-oxobutyl]-2H-1-benzopyran-2-one; (+)-3-( $\alpha$ -Acetonyl-4-nitrobenzyl)-4-hydroxycoumarin; (+)-Acenocoumarin; (R)-(+)-Acenocoumarol; (R)-(+)-Nicoumalone;

### 4. FIRST AID 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

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

#### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### 5. FIRE FIGHTING MEASURES

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

#### Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

### 6. ACCIDENTAL RELEASE MEASURES

#### Personal precautions

Use personal protective equipment. Avoid dust or aerosol formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

#### Environmental precautions

Do not let product enter drains.

#### Methods and materials for containment and cleaning up

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Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Keep in suitable, closed containers for disposal.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust or aerosols. Provide appropriate exhaust ventilation at places where dust/aerosol is formed. Normal measures for preventative fire protection.

### Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place. Store at -20°C.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

### Personal protective equipment

#### Respiratory protection

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Hand 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.

#### Eye 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 and 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.

#### Hygiene measures

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

#### Specific engineering controls

Use mechanical exhaust or laboratory fumehood to avoid exposure.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Solid

### Safety data

pH	N/A	Melting point	N/A
Boiling point	N/A	Flash point	N/A
Ignition temperature	N/A	Lower explosion limit	N/A
Upper explosion limit	N/A	Vapour pressure	N/A
Density	N/A	Water solubility	N/A

## 10. STABILITY AND REACTIVITY

### Chemical stability

Stable under recommended storage conditions.

### Conditions to avoid

no data available

### Materials to avoid

Strong oxidizing agents.

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions: carbon oxides, nitrogen oxides.

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

LD50 (oral - rat) 513 mg/kg

LD50 (oral - mouse) 1470 mg/kg

### Irritation and corrosion

no data available

### Sensitization

no data available

### Reproductive toxicity/Teratogenicity

no data available

### Additional Information

RTECS: GN4900000

### Carcinogenicity

IARC: Not classified as a known, possible or probable carcinogen by IARC.

### Potential health effects

**Inhalation** May be harmful if inhaled. Causes respiratory tract irritation.

**Skin** May be harmful if absorbed through skin. Causes skin irritation.

**Eyes** Causes eye irritation.

**Ingestion** Harmful if swallowed.

### Signs and Symptoms of Exposure

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

## 12. ECOLOGICAL INFORMATION

### Toxicity

no data available

### Persistence and degradability

no data available

### Bioaccumulative potential

no data available

### Mobility in soil

no data available

### PBT and vPvB assessment

no data available

### Other adverse effects

no data available

## 13. DISPOSAL CONSIDERATIONS

### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

### Contaminated packaging

Dispose of as unused product.

## 14. TRANSPORT INFORMATION

### DOT (US)/IMDG/IATA

not dangerous goods

## 15. REGULATORY INFORMATION

### DSL Status

Product is on the Canadian DSL list.

### WHMIS Classification

D1B

Toxic Material Causing Immediate  
and Serious Toxic Effects

D2B

Toxic by ingestion  
Moderate skin irritant  
Moderate respiratory irritant  
Moderate eye irritant

## 16. OTHER INFORMATION

### Further information

Copyright 2010 Toronto Research Chemicals Inc. Copies may be made for internal use only. The above information is believed to be correct to the best of our knowledge, but is not to be deemed as all-inclusive and is to be only used as a guide. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Please take all due care when handling this product.

