EMERGENCY OVERVIEW

RIBAVIRIN CAPSULES contain Ribaverin and excipients generally considered to be non-toxic and non-hazardous in small quantities and under conditions of normal occupational exposure.

Section 1. Identification of the substance

Identification of the product

Product name: Ribaverin Capsules
Formula: C8H12N4O5
Chemical Name: 1-ß-D-ribofuranosyl- 1 H-1,2,4-triazole-3-carboxamide
Therapeutic Category: A nucleoside analogue with antiviral activity.

Manufacturer / supplier identification

Company: Cadila Healthcare Ltd. Ahmedabad, India
Contact for information: Tel.: +91 79 6868100 Fax: +91 79 3750319
Emergency telephone No. Tel.: +91 79 6868100

Section 2. Composition / information on ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>Exposure Limit</th>
<th>CAS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Principle Component:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ribavirin</td>
<td>Not Found</td>
<td>36791-04-5</td>
</tr>
<tr>
<td><strong>Inactive Ingredients:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>crospovidone</td>
<td>Not Found</td>
<td>9003-39-8</td>
</tr>
<tr>
<td>magnesium stearate</td>
<td>Not Found</td>
<td>557-04-0</td>
</tr>
<tr>
<td>microcrystalline cellulose</td>
<td>Not Found</td>
<td>9004-34-6</td>
</tr>
<tr>
<td>povidone</td>
<td>Not Found</td>
<td>9003-39-8</td>
</tr>
<tr>
<td>silicon dioxide</td>
<td>Not Found</td>
<td>7621-86-9</td>
</tr>
<tr>
<td><strong>Capsule Shell:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gelatin</td>
<td>Not Found</td>
<td>9000-70-8</td>
</tr>
<tr>
<td>Titanium dioxide.</td>
<td>Not Found</td>
<td>13463-67-7</td>
</tr>
</tbody>
</table>
Section 3. Health Hazards Information

Dose and Administration

INTRON A Injection should be administered subcutaneously and ribavirin capsules should be administered orally. Ribavirin capsules may be administered without regard to food, but should be administered in a consistent manner.

<table>
<thead>
<tr>
<th>Body Weight</th>
<th>Ribavirin Capsules</th>
<th>INTRON A Injection</th>
</tr>
</thead>
<tbody>
<tr>
<td>=75 kg</td>
<td>2 times 200 mg capsules AM, 3 times 200 mg capsules PM daily p.o.</td>
<td>3 million IU 3 times weekly s.c.</td>
</tr>
<tr>
<td>&gt;75 kg</td>
<td>3 times 200 mg capsules AM, 3 times 200 mg capsules PM daily p.o.</td>
<td>3 million IU 3 times weekly s.c.</td>
</tr>
</tbody>
</table>

Adverse Effects

The primary toxicity of ribavirin is hemolytic anemia. Reductions in hemoglobin levels occurred within the first 1 to 2 weeks of oral therapy.

Cardiac and pulmonary events associated with anemia occurred in approximately 10% of patients.

Ribavirin capsules/INTRON A Combination Therapy:

In general, the selected treatment-emergent adverse events were as under:

General Disorders
- Headache, Fatigue, Rigors, Fever, Influenza-like symptoms, Asthenia, Chest pain.

Central & Peripheral Nervous System Disorders
- Dizziness

Gastrointestinal System Disorders
- Nausea, Anorexia, Dyspepsia, Vomiting.

Musculoskeletal System Disorders
- Myalgia, Arthralgia, Musculoskeletal pain,

Psychiatric Disorders
- Insomnia, Irritability, Depression, Emotional lability, Concentration impaired, Nervousness,

Respiratory System Disorders
- Dyspnea, Sinusitis,

Skin & Appendages Disorders
- Alopecia, Rash, Pruritus, Special Senses,

Other Disorders

In addition, the following spontaneous adverse events have been reported during the marketing surveillance of ribavirin capsules/INTRON A therapy: hearing disorder and vertigo.
Material Safety data sheet

RI BA VIRIN CAPSULES

Strength: 200mg. Pack Size: 42, 56, 70, 84, 140, 168 Tablets per bottle Revision No.: 00

Over Dose Effect

There is limited experience with overdosage. Acute ingestion of up to 20 grams of ribavirin capsules, up to 10 times the recommended doses have been reported.

Contraindications

Combination ribavirin capsules/INTRON A therapy is contraindicated in females who are pregnant and in the male partners of females who are pregnant. Extreme care must be taken to avoid pregnancy during therapy and for 6 months after completion of treatment in female patients, and in female partners of male patients who are taking combination ribavirin capsules/INTRON A therapy.

Ribavirin capsules monotherapy is not effective for the treatment of chronic hepatitis C and should not be used for this indication.

Patients with persistently severe or worsening signs or symptoms of these conditions should be withdrawn from therapy. In many but not all cases these disorders resolve after stopping INTRON A therapy.

Pregnancy Comments

Ribavirin produced significant embryocidal and/or teratogenic effects in all animal species in which adequate studies have been conducted. Malformations of the skull, palate, eye, jaw, limbs, skeleton, and gastrointestinal tract were noted. The incidence and severity of teratogenic effects increased with escalation of the drug dose. Survival of fetuses and offspring was reduced.

Pregnancy Category

X

Section 4. First aid measures

General

Remove from exposure. Remove contaminated Clothing. Person developing serious hypersensitivity reaction must receive medical attention.

Overdose Treatment

There is no specific antidote for INTRON A or ribavirin capsules, and hemodialysis and peritoneal dialysis are not effective treatment of overdose of either agent.

Section 5. Fire – fighting measures

Flash point

Not Found

Upper Flammable Limit:

Not Found

Auto-Ignition Temperature:

Not Found

Lower Flammable Limit:

Not Found

Extinguishing Media

Water Spray, dry chemical, carbon dioxide or foam as appropriate for surrounding fire and material.

Fire and Explosion Hazard

This material is assumed to be combustible. As with all dry powders it is advisable to ground mechanical equipment in contact with the dry material to dissipate the potential build up of static electricity.

Fire Fighting Procedure

As with all fires, evacuate personnel to a safe area. Fire fighter should use self-contained breathing equipment and protective clothing.
Section 6. Storage / Spill / Disposal Measures

Storage
Keep bottle tightly closed.
Store at 25°C (77°F); excursions permitted to 15°C- 30°C (59°- 86°F).

Spill Response
Wear approved respiratory protection, chemically compatible gloves and protective clothing. Wipe up spillage or collect spillage using high efficiency vacuum cleaner. Avoid breathing dust. Place spillage in appropriately labelled container for disposal. Wash spill site.

Disposal
Dispose the waste in accordance with all applicable Federal, State and local laws.

Section 7. Exposure controls and personal protection

Respiratory Protection
Protection from inhalation is not normally necessary. If ventilation is inadequate or dust is likely to generate, use of suitable dust mask would be appropriate.

Skin Protection
Skin protection is not normally necessary, however it is good practice to avoid contact with chemical to use suitable gloves when handling.

Eye protection
Eye protection is not normally necessary. If concerned wear protective goggles or glasses. Wash hands prior to touching eye and in particular handling contact lenses.

Protective Clothing
Protective clothing is not normally necessary, however it is good practice to use apron.

Section 8. Physical and chemical properties

Appearance
Ribavirin capsules, 200 mg are white to off-white granular powder filled in size ‘0’ hard gelatin capsules with white colored cap printed with “ZA-12” in black ink and white colored body printed with “200mg” in black ink

Odour
Odourless

Melting Point
No Data Available

Vapour density
No Data Available

Solubility in water
No Data Available

Evaporation rate
No Data Available

Specific gravity
No Data Available

Boiling point
No Data Available

Reactivity in water
No Data Available

% Volatile by volume
No Data Available

Vapour pressure
No Data Available

Other information
The molecular formula of Ribavirin is C8H12N4O5 and the molecular weight is 244.2. Ribavirin is a white crystalline powder. It is freely soluble in water and slightly soluble in anhydrous alcohol. Ribavirin tablet is available as a light pink to pink, round, biconvex, beveled, film-coated tablet for oral administration.
Material Safety data sheet

RI BAVIRIN CAPSULES

Strength: 200mg. Pack Size: 42, 56, 70, 84, 140, 168 Tablets per bottle

Revision No.: 00

Section 9. Physical Hazards

<table>
<thead>
<tr>
<th>Condition to avoid</th>
<th>Stable</th>
<th>Decomposition Products</th>
<th>Hazardous Reaction</th>
<th>Incompatibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoid exposure to extreme heat, light and moisture.</td>
<td>Stable</td>
<td>No Data Available</td>
<td>No data available.</td>
<td>No data available.</td>
</tr>
</tbody>
</table>

Section 10. Toxicological information

Handling of formulated product is not expected to cause any toxicological affects. The data pertains to the ingredient in formulations, rather than this specific formulation.

Target organ: Eye contact, Skin contact and inhalation is not great risk as this product is tablet.

other: Long-term studies in the mouse and rat (18 to 24 months; doses of 20 to 75 and 10 to 40mg/kg/day, respectively [estimated human equivalent doses of 1.67 to 6.25 and 1.43 to 5.71 mg/kg/day, respectively, based on body surface area adjustment for a 60 kg adult; approximately 0.1 to 0.4 times the maximum human 24-hour dose of ribavirin]) have demonstrated a relationship between chronic ribavirin exposure and increased incidences of vascular lesions (microscopic hemorrhages) in mice. In rats, retinal degeneration occurred in controls, but the incidence was increased in ribavirin-treated rats.

Section 11. Ecological information

No data available on Ecotoxicity

Section 12. Other information

None

Date of issue: 29/08/05


The information contained herein is based on the state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.