ETOPOSIDE INJECTION, USP

SECTION 1 – PRODUCT AND COMPANY IDENTIFICATION

Product Name: Etoposide Injection USP 20 mg/mL, 5mL and 12.5 mL

Marketing Authorisation Holder
Accord Healthcare, Inc.,
1009 Slater Road,
Suite 210-B,
Durham, NC 27703, USA.
Telephone: 1-919-941-7878
Fax-1 919-941-7881

Manufacturer
Intas Pharmaceuticals Ltd.
Plot No. 457, 458
Village-Matoda,
Bavla Road, Ta. Sanand,
Dist. Ahmedabad 382 210,
Gujarat, India

How Supplied:
Etoposide Injection USP
NDC 16729-114-31 100 mg/5 mL Sterile, Multiple Dose Vial
NDC 16729-114-32 250 mg/12.5 mL Sterile, Multiple Dose Vial

US Emergency Phone: Call CHEMTREC Day or Night: 1-800-424-9300

SECTION 2 – COMPOSITION, INFORMATION ON INGREDIENTS

Active: Each mL contains 20 mg Etoposide

Inactive: Each mL contains 2 mg anhydrous citric acid, 30 mg benzyl alcohol, 80 mg polysorbate 80/tween 80, 650 mg polyethylene glycol 300, and 30.5 percent (v/v) dehydrated alcohol.

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Material is clear, yellow solution. Flammable liquid and vapour. Harmful if swallowed or injected. Eye and skin irritant. May cause damage to the bone marrow, reproductive system and liver. Harmful to the foetus. Vapour can cause flash fire. Keep away from heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment). Avoid contact with eyes, skin and clothing. Avoid exposure during pregnancy and while breastfeeding. Do not taste or swallow. Wash thoroughly after handling.
Symptoms of Overexposure by Route of Exposure: This material is intended for intravenous injection under the supervision of physicians.

Inhalation: Inhalation of significant amounts of the product is not anticipated to occur because of the small size of individual containers.

Contact with Skin or Eyes: Contact may cause irritation. Effects may include stinging, watering, redness and swelling of the eyes and redness, itching, burning and skin damage. May cause an allergic reaction on the skin.

Ingestion: Ingestion is not an anticipated route of occupational exposure. However, the active ingredient, Etoposide, is toxic if swallowed. Symptoms similar to those identified under injection may occur.

Injection: Local redness and pain are the primary symptoms of accidental injection in an occupational setting. Medical personnel are not anticipated to experience over-exposures to the therapeutic doses of this product. However, effects including bone marrow suppression with decreased blood cells, chills, fever, nausea, vomiting, severe gastrointestinal distress, liver disorders, unusual bleeding, severe loss of blood pressure, cardiac irregularities, breathing difficulties and hair loss may occur. See package insert for other adverse reactions associated with therapeutic doses of this product.

Potential Health Hazards Acute and Chronic:

Acute: The primary health effects anticipated in an occupational setting include irritation of eyes and skin as well as redness and local swelling after accidental injection. In case of over-exposure by injection, effects such as fever, nausea, vomiting, and loss of blood pressure may occur.

Cancer: Etoposide has not been specifically tested for cancer (see Section 11 for additional information).

Chronic: Based on animal data, Etoposide, is considered a potential developmental and reproductive toxicant (see Section 11).

Target Organs: Potential hazard to the bone marrow and liver (see Section 11).

Pre-Existing Medical Conditions: Pre-existing skin, bone marrow, reproductive and liver disorders may be aggravated by exposure to this material.

For additional information on toxicity, see Section 11.
SECTION 4 - EMERGENCY & FIRST AID MEASURES

Obtain Medical Attention in All cases – show this MSDS!
Remove or cover gross contamination to avoid exposure to rescuers.

**Inhalation:** If respiratory symptoms develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.

**Skin:** Remove contaminated shoes and clothing and cleanse affected area(s) thoroughly by washing with mild soap and water. If irritation or redness develops and persists, seek medical attention.

**Eyes:** If irritation or redness develops, move victim away from exposure and into fresh air. Flush eyes with clean water and seek medical attention. For direct contact, hold eyelids apart and flush the affected eye(s) with clean water for at least 15 minutes. Seek medical attention.

**Ingestion:** If swallowed, seek emergency medical attention. If victim is drowsy or unconscious and vomiting, place on the left side with the head down and DO NOT give anything by mouth. If not vomiting and professional advice is not available, DO NOT induce vomiting. If possible, do not leave victim unattended and observe closely for adequacy of breathing.

Victims of chemical exposure must be taken for medical attention. Take a copy of the MSDS to the physician or health professional with victim. Physicians should refer to Section 11 (Toxicology Information) as well as the Physicians Desk Reference for additional treatment information.

SECTION 5 - FIRE FIGHTING MEASURES

**Flash Point:** 15-21°C

**Flammable Limits** (in air by volume, %): Lower: 3.3 Upper: 24.5

**Extinguishing Media:**
Fire Extinguishing Equipment: The size and nature of this product is such that it will not contribute to the intensity of a fire. Use extinguishing agent suitable for type of surrounding fire.

- Water Spray: OK
- Carbon Dioxide: OK
MATERIAL SAFETY DATA SHEET

Version No: MSDS/ETOS/DP-003                                           Effective Date: January 24, 2013

- Halon: OK
- Foam: OK
- Dry Chemical: OK
- Other: Any "ABC" Class

**Special fire fighting procedure:** as with all fires, evacuate personnel to a safe area. Fire fighters should wear a self-contained breathing apparatus to avoid inhalation of smoke

**Unusual Fire and Explosion Hazard:**
Ethyl alcohol is flammable. Keep this product away from ignition sources.

### SECTION 6 - ACCIDENTAL RELEASE MEASURES

**Spill & Leak Procedures**
Use Personal Protective Equipment, ensure adequate ventilation. Evacuate personnel to safe areas.

**Small releases:** For small releases of this product, wear latex or nitrile gloves and safety glasses. Absorb spilled liquid and rinse area thoroughly with soap and water.

**Large releases:** For large or uncontrolled releases, stay upwind and away from spill. Isolate immediate hazard area and keep unauthorized personnel out. Protect area from potential ignition sources, ensure adequate ventilation of affected area. Contain spill if it can be done with minimal risk. Wear appropriate protective equipment including respiratory protection as conditions warrant (see Section 8). Prevent spilled material from entering sewers, storm drains, other unauthorized treatment drainage systems, and natural waterways.

**Waste:** Spilled material may be absorbed into an appropriate absorbent material. Label as appropriate and arrange for disposal as Hazardous Waste with a suitable licensed Waste Contractor.

### SECTION 7 - HANDLING AND STORAGE

ETOPOSIDE IS A CYTOTOXIC AGENT. ALL WORK PRACTICES MUST BE DESIGNED TO REDUCE HUMAN EXPOSURE TO THE LOWEST LEVEL.

**Handling Precautions:**
Employees must be trained to properly use the product. Ensure vials are properly labeled. As with all chemicals, avoid getting this product ON YOU or IN YOU. Do not eat, drink, smoke or apply cosmetics while handling the product. Wash hands thoroughly after handling.
Particular care in working with this product must be practiced in pharmacies and other preparation areas, and during patient administration.

**Precautions should be taken during the following activities:**

- Withdrawal of needles from drug vials.
- Drug transfers using syringes and needles or filter straws.
- Expulsion of air from drug-filled syringes.

**Storage Conditions:**
Store only in approved containers. Keep away from any incompatible materials or conditions. Store at room temperature. Avoid freezing.

**Protective Practices during Maintenance of Contaminated Equipment:** When cleaning non-disposable equipment, wear latex or nitrile gloves (double gloving is recommended), goggles, and lab coat. Wash equipment with soap and water. All needles, syringes, vials and other disposable items contaminated with this product should be disposed of properly.

**SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Respiratory Protection:** Not normally required for routine, medical administration of this product.

**Hand Protection:** Use latex, nitrile, or rubber gloves. Check gloves for leaks. Wash hands before and after using gloves.

**Eye Protection:** Approved eye protection (e.g., safety glasses with side shields) to safeguard against potential eye contact, irritation or injury is recommended.

**Skin Protection:** A full body gown which is closed at the front and has long sleeves is recommended.

**Environmental Exposure Control & Work Hygienic Practices:** Use with adequate ventilation. Follow standard medical product handling procedures. Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

**SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES**

**Description of Injection:**
A clear, colorless to pale yellow solution in a clear glass vial. When examined under suitable condition of visibility it should be free from particles.
SECTION 10 - STABILITY AND REACTIVITY

Stability:
Stable under normal conditions of storage and handling.

Conditions to avoid:
Heat may cause this product to decompose, destroy the product and produce irritating vapours and toxic gases. Store between 20°-25°C (68°-77°F).

Materials to avoid:
This product is generally compatible with other common materials in a medical facility. Keep away from strong oxidizers and strong acids.

Hazardous Decomposition Products:
Carbon oxides.

Hazardous Polymerisation:
Will not occur.

SECTION 11 - TOXICOLOGY INFORMATION

Toxicity Information is for the Active Pharmaceutical ingredient: Etoposide

Acute Toxicity (oral, inhalation, dermal):
The primary health effects anticipated in an occupational setting include irritation of eyes and skin as well as redness and local swelling after accidental injection. In case of over-exposure by injection, effects such as fever, nausea, vomiting, and loss of blood pressure may occur.

Corrosivity/irritation (eye, skin, respiratory tract):
This product is expected to be irritating to contaminated skin, eyes and other tissues.

Sensitisation (skin, respiratory):
Rare instances of allergic reactions have occurred from clinical use of Etoposide and Etoposide Phosphate. No data on allergic sensitization potential from repeated skin contact.

Mutagenicity:
Etoposide is considered mutagenic based on results of in-vitro Ames gene mutation assay and in vivo mouse micronucleus assay.

Carcinogenicity:
The carcinogenic potential of Etoposide has not been examined in test animals; however, compounds with similar mechanisms of action and mutagenicity profiles have been reported to be carcinogenic. It is not listed as carcinogenic by NTP, IARC or OSHA.

**Reproductive toxicity (fertility, developmental):**
Etoposide causes malformations (birth defects) in the offspring of laboratory animals. Etoposide has been shown to affect the reproductive organs of male and female laboratory animals. In males, effects on testicular size and sperm abnormalities have been reported.

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**SECTION 12 - ENVIRONMENTAL IMPACT INFORMATION**

All work practices must be aimed at eliminating environmental contamination.

**Ecotoxicity:** No specific information is available on the effect of Etoposide on plants or animals in the environment.

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**SECTION 13 - DISPOSAL INFORMATION**

**Methods of Disposal:**
Used vials and other items that have come into contact with the product must be treated as Hazardous Waste.
The waste must be disposed of by a licensed waste contractor preferably by incineration.

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**SECTION 14 - TRANSPORTATION INFORMATION**

**UN Number:**
Not applicable

**Hazard Class:**
Not applicable

**Proper Shipping Name:**
Not applicable

**Packing Group:**
Not applicable

**Marine Pollutant:**
Not applicable
Other applicable information:
Not applicable

SECTION 15 - REGULATORY INFORMATION

Hazard Symbols:

Classification
Not applicable

Risk Phrases:
Not applicable

Safety Phrases:
Not applicable

SECTION 16 - OTHER DATA

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall INTAS be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if INTAS has been advised of the possibility of such damages.