MATERIAL SAFETY DATA SHEET

Product Name: Ketorolac Tromethamine Injection, USP

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Manufacturer Name And Address
Hospira, Inc.
275 North Field Drive
Lake Forest, Illinois 60045
USA

Note:
Hospira, formerly the Hospital Products Division of Abbott Laboratories, was created as an independent company in May 2004.

Emergency Telephone Hospira, Inc.
CHEMTREC: 800 424-9300
224 212-2055

Product Name
Ketorolac Tromethamine Injection, USP

Synonyms
None

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient Name
Ketorolac Tromethamine

Chemical Formula
$C_{19}H_{24}N_2O_6$

Component	Approximate Percent by Weight	CAS Number	RTECS Number
Ketorolac Tromethamine	1.5 - 3	74103-07-4	N/A
Ethyl Alcohol	10	64-17-5	KQ6300000
Water	87	7732-18-5	ZC0110000

3. HAZARD INFORMATION

Emergency Overview
In clinical use, this material is used for the management of pain. The active ingredient is a potent drug and is toxic by ingestion. Possible target organs include the gastrointestinal tract, hematopoietic system, nervous system, reproductive system, liver, kidneys, skin and possibly the eyes.

Occupational Exposure Potential
Information on the absorption of this compound via ingestion, inhalation or skin contact is not available. Avoid liquid aerosol generation and skin contact.

Signs and Symptoms
No signs or symptoms from occupational exposure are known. Clinical data suggest the following: nausea, headaches, dizziness, insomnia, constipation, sleep, gastrointestinal upset, abdominal pain. May cause abnormal kidney function or rash. Direct contact with the eyes could result in eye irritation and stinging.

Medical Conditions Aggravated by Exposure
Hypersensitivity to the material and/or similar materials. Pre-existing ailments in the following organs: kidney, liver, hematopoietic system, gastrointestinal tract.

4. FIRST AID MEASURES

Eye Contact: Remove from source of exposure. Flush with copious amounts of water. If irritation persists or signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.

Skin Contact: Remove from source of exposure. Flush with copious amounts of water. If irritation persists or signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.

Inhalation: Remove from source of exposure. If signs of toxicity occur, seek medical attention. Provide symptomatic / supportive care as necessary.

Ingestion: Remove from source of exposure. If signs of toxicity occur, seek medical attention. Provide symptomatic / supportive care as necessary.

5. FIRE FIGHTING MEASURES

Flammability: Flash Point: 43°C

Fire & Explosion Hazard: None

Extinguishing Media: Use extinguishing media appropriate for primary cause of fire.

Special Fire Fighting Procedures No special provisions required beyond normal fire fighting equipment such as flame and chemical resistant clothing and self contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Spill Cleanup and Disposal Absorb liquid with suitable material and clean affected area with soap and water. Dispose of materials according to the applicable federal, state, or local regulations.

7. HANDLING AND STORAGE

Handling No special handling required.

Storage No special storage required for hazard control. For product protection store at controlled room temperature of 15-30°C (59-86°F). Protect from light, retain in carton until time of use.

Special Precautions Protect from freezing and extreme heat.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

	Exposure limits		
Component	**OSHA-PEL**	**ACGIH-TLV**	**Hospira EEL**
Ketorolac Tromethamine	8 hr TWA: Not Established	8 hr TWA: Not Established	8 hr TWA: 40 mcg/m3 STEL: Not Established
Ethyl Alcohol	8 hr TWA: 1900 mg/m3	8 hr TWA: 1900 mg/m3	8 hr TWA: Not Established

Notes: OSHA PEL: US Occupational Safety and Health Administration – Permissible Exposure Limit
ACGIH TLV: American Conference of Governmental Industrial Hygienists – Threshold Limit Value.
EEL: Employee Exposure Limit.
TWA: 8 hour Time Weighted Average.
STEL: 15-minute Short Term Exposure Limit.

Respiratory Protection	Respiratory protection is not needed during normal product use.
Skin Protection	If solution contact with unprotected skin is likely, use of impervious gloves is a prudent practice.
Eye Protection	Eye protection is not required during expected product use conditions but may be warranted should a splash potential exist.
Engineering Controls	Engineering controls are not needed during normal product use conditions.

9. PHYSICAL/CHEMICAL PROPERTIES

Appearance/Physical State	Clear, slightly yellow solution.
Odor	Not Determined.
Boiling Point	91°C at 760 mm Hg
Freezing Point	Not Determined
Vapor Pressure	Not Determined
Vapor Density (Air=1)	Not Determined
Evaporation Rate	Not Applicable
Bulk Density	0.991 g/mL
Specific Gravity	Not Determined
Solubility	Water, ethyl alcohol
pH	6.9-7.9

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under standard use and storage conditions.
Incompatibilities	Not Determined
Hazardous Decomposition Products	Oxides of carbon
Hazardous Polymerization	Not Determined.

11. TOXICOLOGICAL INFORMATION:

Acute Toxicity: Oral

Ingredient(s)	Percent	Test Type	Value	Units	Species
Ketorolac Tromethamine	100	LD50	202-505	mg/kg	Rats
Ethyl Alcohol	100	LD50	5560-13,700	mg/kg	Guinea Pigs, Rats, Mice, Rabbits

LD 50: Dosage that produces 50% mortality.
Product contains between approximately 1.5-3.0% Ketorolac Tromethamine.

Mutagenicity	Not Determined
Target Organ Effects	In clinical use target organ effects include the gastrointestinal tract, hematopoietic system, nervous system, reproductive system, liver, kidneys, skin and possibly the eyes.

12. ECOLOGICAL INFORMATION:

Aquatic Toxicity	Not Available

13. DISPOSAL CONSIDERATIONS:

Waste Disposal	Disposal should be performed in accordance with the federal, state or local regulatory requirements.
Container Handling and Disposal	Dispose of container and unused contents in accordance with federal, state, and local regulations.

14. TRANSPORTATION INFORMATION

DOT Proper Shipping Name:	Ethanol Solutions
UN Number:	UN 1170
Hazard Class:	3
Packing Group:	III

Notes: DOT - US Department of Transportation Regulations

15. REGULATORY INFORMATION

TSCA Status	Not Regulated
CERCLA Status	Not Regulated
SARA Status	Not Regulated
RCRA Status	Not Regulated
PROP 65 (Calif.)	Not Regulated

Notes: TSCA Toxic Substance Control Act
CERCLA, US EPA law, Comprehensive Environmental Response, Compensation, and Liability Act
SARA Superfund Amendments and Reauthorization Act
RCRA US EPA, Resource Conservation and Recovery Act
Prop 65, California Proposition 65

16. OTHER INFORMATION:

MSDS Coordinator	T. Straits MPH, CIH
Date Prepared	September 15, 2005

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