

SAFETY DATA SHEET

SECTION 1 : IDENTIFICATION

Product Name: Esmolol Hydrochloride Injection
Manufacturer Name: Fresenius Kabi USA, LLC
Address: Three Corporate Drive
 Lake Zurich, Illinois 60047
General Phone Number: (847) 550-2300
Customer Service Phone Number: (888) 386-1300
Health Issues Information: (800) 551-7176
SDS Creation Date: January 08, 2009
SDS Revision Date: June 01, 2015
(M)SDS Format:

SECTION 2 : HAZARD(S) IDENTIFICATION

GHS Pictograms:



Signal Word: DANGER.

GHS Class: Respiratory sensitisation. Category 1.
 Eye Irritation. Category 2.
 Skin Irritation. Category 2.
 Skin Sensitization. Category 1.

Hazard Statements: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 Causes serious eye irritation.
 Causes skin irritation.
 May cause an allergic skin reaction.

Precautionary Statements: Avoid breathing dust/fume/gas/mist/vapours/spray.
 Wash hands thoroughly after handling.
 Contaminated work clothing should not be allowed out of the workplace.
 Wear protective gloves/protective clothing/eye protection/face protection.
 In case of inadequate ventilation wear respiratory protection.
 IF ON SKIN: Wash with plenty of water.
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 Specific treatment (see ... on this label).
 If skin irritation occurs: Get medical advice/attention.
 If skin irritation or rash occurs: Get medical advice/attention.
 If eye irritation persists: Get medical advice/attention.
 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
 Take off contaminated clothing and wash it before reuse.
 Dispose of contents/container in accordance with Local, State, Federal and Provincial regulations.

Emergency Overview: This product is intended for therapeutic use only when prescribed by a physician. Potential adverse reactions from prescribed doses and overdoses are described in the package insert.

Route of Exposure: Inhalation Ingestion Eye contact Skin Absorption. Injection.

Potential Health Effects:

Eye: Contact with eyes may cause irritation.

Signs/Symptoms: Side effects from therapeutic doses include: nausea/vomiting, dizziness/vertigo, low blood pressure, slow heart rate, bronchospasms, wheezing, and dyspnea. Occupational exposure has not been fully investigated.

Aggravation of Pre-Existing Conditions: End stage renal disease, impaired renal function.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent	EC Num.
Esmolol Hydrochloride	81161-17-3	10 mg/mL	
Glacial Acetic Acid	64-19-7	0.546 mg/mL	
Sodium Acetate Trihydrate	6131-90-4	2.8 mg/mL	
Water for Injection	7732-18-5	Quantity Sufficient	

SECTION 4 : FIRST AID MEASURES

Eye Contact:	Immediately flush eyes with plenty of water for at least 15 to 20 minutes. Ensure adequate flushing of the eyes by separating the eyelids with fingers. Get immediate medical attention.
Skin Contact:	Immediately wash skin with plenty of soap and water for 15 to 20 minutes, while removing contaminated clothing and shoes. Get medical attention if irritation develops or persists.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
Ingestion:	If conscious, flush mouth out with water immediately. Call a physician or poison control center immediately. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.
Other First Aid:	For Adverse Event Information, please call (800) 551-7176.

SECTION 5 : FIRE FIGHTING MEASURES

Flash Point:	Not established.
Flash Point Method:	Not established.
Auto Ignition Temperature:	Not established.
Lower Flammable/Explosive Limit:	Not established.
Upper Flammable/Explosive Limit:	Not established.
Fire Fighting Instructions:	Evacuate area of unprotected personnel. Use cold water spray to cool fire exposed containers to minimize risk of rupture. Do not enter confined fire space without full protective gear. If possible, contain fire run-off water.
Extinguishing Media:	Use alcohol resistant foam, carbon dioxide, dry chemical, or water fog or spray when fighting fires involving this material. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Protective Equipment:	As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.
Hazardous Combustion Byproducts:	Thermal decomposition products may include smoke and toxic fumes. Oxides of carbon, oxides of nitrogen and other organic substances may be formed. Other undetermined low molecular weight hydrocarbon compounds may be released in small quantities depending upon specific conditions of combustion.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Personnel Precautions:	Evacuate area and keep unnecessary and unprotected personnel from entering the spill area. Avoid personal contact and breathing vapors or mists. Use proper personal protective equipment as listed in Section 8.
Environmental Precautions:	Avoid runoff into storm sewers, ditches, and waterways.
Methods for containment:	Contain spills with an inert absorbent material such as soil, sand or oil dry.
Methods for cleanup:	Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. After removal, flush spill area with soap and water to remove trace residue.

SECTION 7 : HANDLING and STORAGE

Handling:	When handling pharmaceutical products, avoid all contact and inhalation of vapor, mists and/or fumes. Use with adequate ventilation. Use only in accordance with directions.
Storage:	Store at controlled room temperature 25°C (77°F). Excursions permitted to 15°C to 30°C (59 to 86°F). [See USP Controlled Room Temperature]. Protect from freezing. Avoid excessive heat.
Work Practices:	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
Hygiene Practices:	Wash thoroughly after handling. Avoid contact with eyes and skin. Avoid inhaling vapor or mist.

SECTION 8: EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls:	General ventilation is sufficient if this product is being used in a controlled medical setting (clinic, hospital, medical office) for its sole intended parenteral (injection) purpose. Otherwise, use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls including use of a biosafety cabinet / fume hood to control airborne levels below recommended exposure limits.
Eye/Face Protection:	Chemical splash goggles. Wear a face shield also when splash hazard exist.
Skin Protection Description:	Protective laboratory coat, apron, or disposable garment recommended.
Hand Protection Description:	Wear appropriate protective gloves. Consult glove manufacturer's data for permeability data. Nitrile rubber or natural rubber gloves are recommended.
Respiratory Protection:	No personal respiratory protective equipment is normally required when this product is being used/administered by a licensed healthcare practitioner (i.e. an end-user such as a clinician / doctor / nurse) for its sole intended parenteral (injection) purpose in a controlled medical setting. The need for respiratory protection will vary according to the airborne concentrations and environmental conditions. A

NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances. Consult the NIOSH web site (<http://www.cdc.gov/niosh/npptl/topics/respirators/>) for a list of respirator types and approved suppliers.

Other Protective: Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.

EXPOSURE GUIDELINES

Glacial Acetic Acid :

Guideline OSHA: PEL-TWA: 10 ppm

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

Physical State: Liquid solution.
Color: Clear to pale yellow
Boiling Point: > 100°C (212°F)
Melting Point: 0°C (32 °F)
Solubility: miscible.
Vapor Density: Not established.
Vapor Pressure: Not established.
Percent Volatile: Not established.
pH: 4.5 - 5.5
Molecular Formula: Mixture
Molecular Weight: 331.8
Flash Point: Not established.
Flash Point Method: Not established.
Auto Ignition Temperature: Not established.

SECTION 10 : STABILITY and REACTIVITY

Chemical Stability: Stable under normal temperatures and pressures.
Hazardous Polymerization: Not reported.
Conditions to Avoid: No conditions contributing to instability are known to exist for normal handling of this product.

SECTION 11 : TOXICOLOGICAL INFORMATION

Esmolol Hydrochloride :

Acute Toxicity: Acute Toxicity:
LD50 IV Rat: 71 g/kg
LD50 IV Mouse: 93 mg/kg
LD50 IV Rabbit: 40 mg/kg
LD50 IV Dog: 32 mg/kg

Esmolol Hydrochloride :

RTECS Number: DA8346000

Other Toxicological Information: Intravenous. - Rat LD50: 71 mg/kg [Details of toxic effects not reported other than lethal dose value]
Intravenous. - Mouse LD50: 93 mg/kg [Details of toxic effects not reported other than lethal dose value]
Intravenous. - Rabbit LD50: 40 mg/kg [Details of toxic effects not reported other than lethal dose value]
Intravenous. - Rat TDLo: 560 mg/kg/14D (intermittent) [Related to Chronic Data - death]

Glacial Acetic Acid :

RTECS Number: AF1225000

Eye: Eye - Rabbit Rinsed with water: 5 mg/30S

Skin: Administration onto the skin - Rabbit LD50: 1060 uL/kg [Details of toxic effects not reported other than lethal dose value]
Administration onto the skin - Rabbit TDLo: 0.04 gm/kg/24H [Skin and Appendages - Primary irritation (After topical exposure)]
Administration onto the skin - Rabbit Open irritation test: 525 mg
Administration onto the skin - Rabbit Standard Draize test.: 50 mg/24H
Administration onto the skin - Rat TDLo: 0.25 mg/kg [Gastrointestinal - Ulceration or bleeding from duodenum]
Administration onto the skin - Mouse Unscheduled DNA synthesis: 79279 ug/kg
Administration onto the skin - Mouse Mutation test systems : 1201 mg/kg

Inhalation: Inhalation - Mouse LC50: 5620 ppm/1H [Sense Organs and Special Senses (Eye) - Conjunctive irritation Sense Organs and Special Senses (Eye) - effect, not otherwise specified Blood - Other changes]

Ingestion: Oral - Rat LD50: 3310 mg/kg [Details of toxic effects not reported other than lethal dose value]

Other Toxicological Information: Intravenous. - Mouse LD50: 525 mg/kg [Behavioral - convulsions or effect on seizure threshold]
Subcutaneous - Rabbit LDLo: 600 mg/kg [Details of toxic effects not reported other than lethal dose value]

Intraperitoneal. - Mouse TDLo: 50 mg/kg [Behavioral - analgesia]
Intraperitoneal. - Mouse TDLo: 93.75 mg/kg [Behavioral - convulsions or effect on seizure threshold]

Sodium Acetate Trihydrate :

RTECS Number: AJ4580000

SECTION 12 : ECOLOGICAL INFORMATION

Ecotoxicity: No ecotoxicity data was found for the product.
Environmental Stability: No environmental information found for this product.

SECTION 13 : DISPOSAL CONSIDERATIONS

Waste Disposal: Dispose of in accordance with Local, State, Federal and Provincial regulations.

SECTION 14 : TRANSPORT INFORMATION

DOT Shipping Name: Not Regulated.
DOT UN Number: Not Regulated.

SECTION 15 : REGULATORY INFORMATION

Esmolol Hydrochloride :

Canada DSL: Listed

Glacial Acetic Acid :

TSCA Inventory Status: Listed

EINECS Number: 200-580-7

Canada DSL: Listed

Canada IDL: Identified under the Canadian Hazardous Products Act Ingredient Disclosure List: 0.1%.6(51)

Water for Injection :

TSCA Inventory Status: Listed

Canada DSL: Listed

SECTION 16 : ADDITIONAL INFORMATION

HMIS Ratings:

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Disclaimer: The information contained herein pertains to this material. It is the responsibility of each individual party to determine for themselves the proper means of handling and using these materials based on their purpose and intended use. Fresenius-Kabi assumes no liability resulting from the use of or reliance upon the information contained in this material safety data sheet. This material safety data sheet does not constitute the guaranty or specifications of the product.

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