

MSDS

MATERIAL SAFETY DATA SHEET



Page 1

COMMON NAME: Insulin, Mixed
(Lilly Nos.: CP0100, CP0110, CP0140, CP0200, CP0210,
CP0240, CP0300, CP0310, CP0340, CP0400, CP0410, CP0440,
CP0510, CP0540, CP0610, CP0640)

REVISED DATE: June 16, 1995

SECTION REVISED: Section 8

U.S. TELEPHONE NUMBERS: EMERGENCY 317-276-2000 CHEMTREC 800-424-9300

As of the date of issuance, we are providing available information relevant to the handling of this material in the workplace. All information contained herein is offered with the good faith belief that it is accurate. THIS MATERIAL SAFETY DATA SHEET SHALL NOT BE DEEMED TO CREATE ANY WARRANTY OF ANY KIND (INCLUDING WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE). In the event of an adverse incident associated with this material, this safety data sheet is not intended to be a substitute for consultation with appropriately trained personnel. Nor is this safety data sheet intended to be a substitute for product literature which may accompany the finished product.

See attached glossary for abbreviations.

----- SECTION 1 - MATERIAL IDENTIFICATION -----

Common Name: Insulin, Mixed

Synonyms/Trade Names: Insulin, Beef-Pork; Insulin; Iletin*; NPH;
Lente; Ultralente; Semilente; Mixed Insulin

Mixture Ingredients Listed Below:

Common or Chemical Name	Synonyms/Trade Names	CAS Number	Percent in Mixture
Zinc-insulin crystals	ZIC	9004-10-8	0.1-0.4
Protamine sulfate	NAIF	9009-65-8	0-1.5
Glycerin	Glycerol	56-81-5	1.4-1.8
m-Cresol	meta-Cresol	108-39-4	0-0.22
Methyl paraben	Methyl p-hydroxybenzoate	99-76-3	0-0.1
Phenol	Carbolic acid	108-95-2	0-0.28
Water	H2O	7732-18-5	95

Contains no hazardous components (one percent or greater) or carcinogens (one-tenth percent or greater) not listed above.

* Trademark of Eli Lilly and Company

MSDS

MATERIAL SAFETY DATA SHEET



Page 2

COMMON NAME: Insulin, Mixed
(Lilly Nos.: CP0100, CP0110, CP0140, CP0200, CP0210,
CP0240, CP0300, CP0310, CP0340, CP0400, CP0410, CP0440,
CP0510, CP0540, CP0610, CP0640)
REVISED DATE: June 16, 1995

----- SECTION 2 - PHYSICAL DATA -----

Appearance: Colorless clear solution to white milky suspension

Odor: Odorless

Boiling Point: NAIF

Melting Point: NA

Specific Gravity: 1.004-1.007

pH: 7.0-7.8

Evaporation Rate: NAIF

Solubility in Water: Soluble

Vapor Density: NAIF

Vapor Pressure: NAIF

----- SECTION 3 - FIRE AND EXPLOSION INFORMATION -----

Extinguishing Media: Use water, carbon dioxide, dry chemical, foam, or
Halon.

Unusual Fire and Explosion Hazards: None known.

Flash Point: NAIF

Method: NA

UEL: NAIF

LEL: NAIF

MSDS

MATERIAL SAFETY DATA SHEET



Page 3

COMMON NAME: Insulin, Mixed
(Lilly Nos.: CP0100, CP0110, CP0140, CP0200, CP0210,
CP0240, CP0300, CP0310, CP0340, CP0400, CP0410, CP0440,
CP0510, CP0540, CP0610, CP0640)
REVISED DATE: June 16, 1995

----- SECTION 4 - REACTIVITY INFORMATION -----

Stability: Stable at normal temperatures and pressures.

Incompatibility: May react with strong oxidizing agents (e.g., peroxides, permanganates, nitric acid, etc.).

Hazardous Decomposition: May emit toxic fumes when heated to decomposition.

Hazardous Polymerization: Does not occur.

----- SECTION 5 - HEALTH HAZARD INFORMATION -----

Human - Occupational

Effects, Including Signs and Symptoms, of Exposure: Possible contact dermatitis.

Medical Conditions Aggravated By Exposure: Hypersensitivity to insulin.

Primary Route(s) of Entry: Inhalation and skin contact.

Exposure Guidelines: PEL and TLV not established.

Animal Toxicity Data Single Exposure

Oral: NAIF

Skin: NAIF

Inhalation: NAIF

Intravenous: Mouse, median lethal dose 6300 units/kg.

Skin Contact: NAIF

Eye Contact: NAIF

MSDS

MATERIAL SAFETY DATA SHEET



Page 4

COMMON NAME: Insulin, Mixed
(Lilly Nos.: CP0100, CP0110, CP0140, CP0200, CP0210,
CP0240, CP0300, CP0310, CP0340, CP0400, CP0410, CP0440,
CP0510, CP0540, CP0610, CP0640)
REVISED DATE: June 16, 1995

----- SECTION 5 - HEALTH HAZARD INFORMATION (continued) -----

Animal Toxicity Data Repeat Exposure

Target Organ Effects: NAIF

Reproduction: No effects identified in animal studies.

Sensitization: NAIF

Mutagenicity: NAIF

Carcinogenicity: No carcinogenicity data found. Not listed as
carcinogenic by IARC, NCI/NTP, ACGIH, or OSHA.

----- SECTION 6 - EMERGENCY AND FIRST AID PROCEDURES -----

Eyes: Flush eyes with plenty of water. Get medical attention.

Skin: Remove contaminated clothing and clean before reuse. Wash all
exposed areas of skin with plenty of soap and water. Get medical
attention if irritation develops.

Inhalation: Move individual to fresh air. Get medical attention if
breathing difficulty occurs. If not breathing, provide
artificial respiration assistance (mouth-to-mouth) and call a
physician immediately.

Ingestion: Do not induce vomiting. Call a physician or poison control
center. If available, administer activated charcoal (6-8
heaping teaspoons) with two to three glasses of water. Do not
give anything by mouth to an unconscious person. Immediately
transport to a medical care facility and see a physician.

----- SECTION 7 - HANDLING PRECAUTIONS -----

Under normal use and handling conditions, no protective equipment is
required. The following is recommended for a production setting:

Respiratory Protection: Use an approved respirator.

Eye Protection: Safety glasses.

MSDS

MATERIAL SAFETY DATA SHEET



Page 5

COMMON NAME: Insulin, Mixed
(Lilly Nos.: CP0100, CP0110, CP0140, CP0200, CP0210,
CP0240, CP0300, CP0310, CP0340, CP0400, CP0410, CP0440,
CP0510, CP0540, CP0610, CP0640)

REVISED DATE: June 16, 1995

----- SECTION 7 - HANDLING PRECAUTIONS (continued) -----

Ventilation: Laboratory fume hood or local exhaust ventilation.

Other Protective Equipment: Chemical-resistant gloves and body covering to minimize skin contact. If handled in a ventilated enclosure, as in a laboratory setting, respirator and goggles or face shield may not be required. Safety glasses are always required.

----- SECTION 8 - SPILL, LEAK AND DISPOSAL PROCEDURES -----

Spills: Prevent further migration into the environment. Use absorbent/adsorbent material to solidify liquids. Sweep up or vacuum. Wear protective equipment, including eye protection, to avoid exposure (see Section 7 for specific handling precautions).

Waste Disposal: Dispose of any cleanup materials and waste residue according to applicable federal, state, and local regulations. The following forms of insulin contain m-cresol which is regulated under 40 CFR 261.24: Regular Iletin I, Regular Iletin II, NPH Iletin I, and NPH Iletin II.

----- SECTION 9 - SHIPPING INFORMATION -----
(Proper Shipping Name / Hazard Class / UN Number)

DOT: Not regulated for surface transport.

ICA0: Not regulated for air transport.

IMO: Not regulated for water transport.

For additional information call: Occupational Health and Safety
Eli Lilly and Company 317-276-3494

For additional copies call: Customer Services
Eli Lilly and Company 1-800-LILLY-Rx
(1-800-545-5979)

MSDS

MATERIAL SAFETY DATA SHEET



GLOSSARY

Abbreviations Used in Material Safety Data Sheets

ACGIH = American Conference of Governmental Industrial Hygienists
BEI = Biological Exposure Index
CAS Number = Chemical Abstract Service Registry Number
CERCLA = Comprehensive Environmental Response Compensation and Liability Act (of 1980)
CHEMTREC = Chemical Transportation Emergency Center
CWA = Clean Water Act
DOT = Department of Transportation
EP = Extraction Procedure as defined under RCRA Regulations
EPA = Environmental Protection Agency
HEPA = High Efficiency Particulate Air (Filter)
HSDB = Hazardous Substance Data Base
IARC = International Agency for Research on Cancer
ICAO = International Civil Aviation Organization
IMO = International Maritime Organization
LEG = Lilly Exposure Guideline
LEL = Lower Explosive Limit
MSDS = Material Safety Data Sheet
NA = Not Applicable, except in Section 9 where NA = North America
NAIF = No Applicable Information Found
NCI/NTP = National Cancer Institute/National Toxicology Program
NIOSH = National Institute for Occupational Safety and Health
NOS = Not Otherwise Specified
OHS = Occupational Health Services
OSHA = Occupational Safety and Health Administration
PEL = Permissible Exposure Limit
PSN = Proper Shipping Name
RCRA = Resource Conservation and Recovery Act
RTECS = Registry of Toxic Effects of Chemical Substances
SARA = Superfund Amendments and Reauthorization Act
STEL = Short Term Exposure Limit
TLV = Threshold Limit Value
TSCA = Toxic Substances Control Act
TWA = Time Weighted Average/8 Hours Unless Otherwise Noted
UEL = Upper Explosive Limit
UN = United Nations