

L-(-)-PHENYLALANINE
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MATERIAL SAFETY DATA SHEET

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SUBSTANCE IDENTIFICATION

CAS-NUMBER 63-91-2

SUBSTANCE: ***L-(-)-PHENYLALANINE***

TRADE NAMES/SYNONYMS:
 ALPHA-AMINO-BETA-PHENYLPROPIONIC ACID; BETA-PHENYL-ALA-NINE;
 ALPHA-AMINOHYDROCINNAMIC ACID; ALANINE, 3-PHENYL; ANITBIOTIC FN 1636; O-4141;

CHEMICAL FAMILY:
 AMINE, AROMATIC

MOLECULAR FORMULA: C9-H11-O2-N

MOLECULAR WEIGHT: 165.21

CERCLA RATINGS (SCALE 0-3): HEALTH=0 FIRE=0 REACTIVITY=0 PERSISTENCE=1
 NFPA RATINGS (SCALE 0-4): HEALTH=0 FIRE=0 REACTIVITY=0

COMPONENTS AND CONTAMINANTS

COMPONENT: L-(-)-PHENYLALANINE PERCENT: 100

OTHER CONTAMINANTS: NONE

EXPOSURE LIMITS:
 NO OCCUPATIONAL EXPOSURE LIMITS ESTABLISHED BY OSHA, ACGIH, OR NIOSH.

PHYSICAL DATA

DESCRIPTION: WHITE, CRYSTALLINE POWDER

BOILING POINT: 563 F (295 C) SUBLIMES

MELTING POINT: 541 F (283 C) DECOMPOSES SPECIFIC GRAVITY: NOT AVAILABLE

SOLUBILITY IN WATER: SOLUBLE

SOLVENT SOLUBILITY: ALCOHOL, ETHER, BENZENE, METHANOL

FIRE AND EXPLOSION DATA

FIRE AND EXPLOSION HAZARD:
 NEGLIGIBLE FIRE HAZARD WHEN EXPOSED TO HEAT OR FLAME.

FLASH POINT: NON-FLAMMABLE

FIREFIGHTING MEDIA:
 DRY CHEMICAL, CARBON DIOXIDE OR HALON
 (1987 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.4).

FOR LARGER FIRES, USE WATER SPRAY, FOG OR STANDARD FOAM
 (1987 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.4).

FIREFIGHTING:
 NO ACUTE HAZARD. MOVE CONTAINER FROM FIRE AREA IF POSSIBLE. AVOID BREATHING VAPORS OR DUSTS; KEEP UPWIND.

TOXICITY

L-(-)-PHENYLALANINE:
 200 UG/KG UNREPORTED-MAN TDLO; 5287 MG/KG INTRAPERITONEAL-RAT LD50; MUTAGENIC DATA (RTECS); REPRODUCTIVE EFFECTS DATA (RTECS); CARCINOGEN STATUS: NONE.
 L-(-)-PHENYLALANINE IS A MUCOUS MEMBRANE IRRITANT.

HEALTH EFFECTS AND FIRST AID

INHALATION:
 IRRITANT.
 ACUTE EXPOSURE- MAY CAUSE RESPIRATORY IRRITATION AND COUGHING.
 CHRONIC EXPOSURE- MAY CAUSE MUCOUS MEMBRANE IRRITATION.

FIRST AID- REMOVE FROM EXPOSURE AREA TO FRESH AIR IMMEDIATELY. IF BREATHING HAS STOPPED, PERFORM ARTIFICIAL RESPIRATION. KEEP PERSON WARM AND AT REST. TREAT SYMPTOMATICALLY AND SUPPORTIVELY. GET MEDICAL ATTENTION IMMEDIATELY.

SKIN CONTACT:

ACUTE EXPOSURE- NO DATA AVAILABLE.
CHRONIC EXPOSURE- NO DATA AVAILABLE.

EYE CONTACT:

ACUTE EXPOSURE- NO DATA AVAILABLE.
CHRONIC EXPOSURE- NO DATA AVAILABLE.

INGESTION:

ACUTE EXPOSURE- MAY CAUSE IRRITATION OF THE GASTROINTESTINAL TRACT, NAUSEA, VOMITING AND DIARRHEA, GENERAL MALAISE, NUMBNESS AND TINGLING SENSATIONS, URINARY FREQUENCY, CHILLS, FEVER AND ARTHRALGIA. IT MAY CAUSE THE RAPID REMOVAL OF CALCIUM IN THE BODY; THEREFORE IT IS USUALLY ADMINISTERED AS AN ANTIDOTE IN THE FORM OF A CALCIUM CHELATE TO PREVENT HYPOCALCEMIA. ORAL ADMINISTRATION OF THE SUBSTANCE IS POTENTIALLY HARMFUL, SINCE LEAD IN THE GASTROINTESTINAL TRACT IS THEREBY CHELATED AND MORE RAPIDLY ABSORBED; THUS, THE POSSIBILITY EXISTS THAT ORAL ADMINISTRATION COULD INCREASE THE TOTAL BODY LEAD.

CHRONIC EXPOSURE- HIGH DOSES HAVE INDUCED SEVERE RENAL TUBULAR LESIONS IN MAN AND ANIMAL.

FIRST AID- TREAT SYMPTOMATICALLY AND SUPPORTIVELY. GET MEDICAL ATTENTION IMMEDIATELY. IF VOMITING OCCURS, KEEP HEAD LOWER THAN HIPS TO PREVENT ASPIRATION.

ANTIDOTE:

NO SPECIFIC ANTIDOTE. TREAT SYMPTOMATICALLY AND SUPPORTIVELY.

REACTIVITY

REACTIVITY:

STABLE UNDER NORMAL TEMPERATURES AND PRESSURES.

INCOMPATIBILITIES:

ONE KNOWN.

POLYMERIZATION:

HAZARDOUS POLYMERIZATION HAS NOT BEEN REPORTED TO OCCUR UNDER NORMAL TEMPERATURES AND PRESSURES.

SPILL AND LEAK PROCEDURES

OCCUPATIONAL SPILL:

NO SPECIAL PRECAUTIONS INDICATED.

PROTECTIVE EQUIPMENT

VENTILATION:

PROVIDE LOCAL EXHAUST OR GENERAL DILUTION VENTILATION SYSTEM.

RESPIRATOR:

HIGH LEVELS- DUST MASK.

FIREFIGHTING- SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACE-PIECE

OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE.

CLOTHING:

PROTECTIVE CLOTHING NOT REQUIRED. AVOID REPEATED OR PROLONGED CONTACT WITH THIS SUBSTANCE.

GLOVES:

EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE GLOVES TO PREVENT CONTACT WITH THIS SUBSTANCE.

EYE PROTECTION:

EMPLOYEE MUST WEAR SPLASH-PROOF OR DUST-RESISTANT SAFETY GOGGLES AND A FACESHIELD TO PREVENT CONTACT WITH THIS SUBSTANCE. CONTACT LENSES SHOULD NOT BE WORN.

EMERGENCY WASH FACILITIES:

WHERE THERE IS ANY POSSIBILITY THAT AN EMPLOYEE'S EYES AND/OR SKIN MAY BE EXPOSED TO THIS SUBSTANCE, THE EMPLOYER SHOULD PROVIDE AN EYE WASH FOUNTAIN AND QUICK DRENCH SHOWER WITHIN THE IMMEDIATE WORK AREA FOR EMERGENCY USE.

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-ADDITIONAL INFORMATION-

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