

MATERIAL SAFETY DATA SHEET

EASTMAN KODAK COMPANY
343 STATE STREET
ROCHESTER, NEW YORK 14650

FOR EMERGENCY HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION, CALL 716 722-5151
FOR OTHER PURPOSES, CALL THE MARKETING AND DISTRIBUTION CENTER IN YOUR AREA.

DATE OF PREPARATION: 4/23/85 FORM APPROVED BY U.S. DEPARTMENT OF LABOR

SECTION I. IDENTIFICATION

- PRODUCT NAME: L-(-)-PROLINE
- SIZE(S): CAT 114 6745 - BULK; CAT 114 6752 - 25 G; CAT 114 6760 - 100 G
- SYNONYM(S): 2-PYRROLIDINECARBOXYLIC ACID
- FORMULA: C5H9NO2
- KODAK LABORATORY CHEMICALS CATALOG NUMBER(S): 2488
- KODAK ACCESSION NUMBER: 902488
- KODAK HAZARD RATING CODES: R: U# S: U# F: 1 C: 0
#UNKNOWN

SECTION II. PRODUCT AND COMPONENT HAZARD DATA

A.	COMPONENT(S):	WEIGHT PERCENT	TLV(R)	KODAK ACCESSION NO.	CAS REG. NO.
	L-(-)-PROLINE	APPROX 100	---	902488	147-85-3

8. PRECAUTIONARY LABEL STATEMENT(S):
LOW HEALTH HAZARD FOR USUAL INDUSTRIAL HANDLING

SECTION III. PHYSICAL DATA

- APPEARANCE AND ODOR: COLORLESS CRYSTALS; ODORLESS
- MELTING WITH DECOMPOSITION: 221 C (430 F)
- VAPOR PRESSURE: NEGLIGIBLE
- EVAPORATION RATE (N-BUTYL ACETATE = 1): NEGLIGIBLE
- VAPOR DENSITY (AIR = 1): NOT APPLICABLE
- VOLATILE FRACTION BY WEIGHT: NEGLIGIBLE
- SPECIFIC GRAVITY (H2O = 1): NOT AVAILABLE
- SOLUBILITY IN WATER (BY WEIGHT): APPRECIABLE

SECTION IV. FIRE AND EXPLOSION HAZARD DATA

- EXTINGUISHING MEDIA: WATER SPRAY; DRY CHEMICAL; CO2
- SPECIAL FIRE FIGHTING PROCEDURES:
WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING
TO PREVENT CONTACT WITH SKIN AND EYES.
- UNUSUAL FIRE AND EXPLOSION HAZARDS:
FIRE OR EXCESSIVE HEAT MAY CAUSE PRODUCTION OF HAZARDOUS
DECOMPOSITION PRODUCTS.

R-0304.200
82-0799

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SECTION V. REACTIVITY DATA

- STABILITY: STABLE
- INCOMPATIBILITY: STRONG OXIDIZERS
- HAZARDOUS DECOMPOSITION PRODUCTS:
AS WITH ANY OTHER ORGANIC MATERIAL, COMBUSTION WILL PRODUCE
CARBON DIOXIDE AND PROBABLY CARBON MONOXIDE.
OXIDES OF NITROGEN MAY ALSO BE PRESENT.
- HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

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SECTION VI. TOXICITY AND HEALTH HAZARD DATA

A. EXPOSURE LIMITS: NOT ESTABLISHED

B. EXPOSURE EFFECTS:

THE TOXICOLOGICAL PROPERTIES OF THIS MATERIAL HAVE NOT BEEN
INVESTIGATED. HOWEVER, THIS CHEMICAL IS A NATURALLY OCCURRING,
NON-ESSENTIAL AMINO ACID AND IS BELIEVED TO PRESENT A LOW
HEALTH HAZARD FOR USUAL INDUSTRIAL HANDLING.

C. FIRST AID:

INHALATION: REMOVE TO FRESH AIR.

EYES: IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER AND GET
MEDICAL ATTENTION IF ANY SYMPTOMS ARE PRESENT AFTER
WASHING.

SKIN: IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER AND GET
MEDICAL ATTENTION IF SYMPTOMS ARE PRESENT AFTER
WASHING.

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SECTION VII. PERSONAL PROTECTION AND CONTROLS

A. RESPIRATORY PROTECTION:

AN APPROPRIATE NIOSH-APPROVED RESPIRATOR FOR DUST SHOULD BE
WORN IF NEEDED.

B. VENTILATION:

LOCAL EXHAUST: IF NEEDED TO CONTROL DUST.

MECHANICAL (GENERAL): RECOMMEND AT LEAST TEN AIR CHANGES PER
HOUR FOR GOOD GENERAL ROOM VENTILATION.

C. SKIN AND EYE PROTECTION:

SAFETY GLASSES SHOULD BE WORN IN ANY TYPE OF INDUSTRIAL
OPERATION.

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SECTION VIII. SPECIAL STORAGE AND HANDLING PRECAUTIONS

KEEP FROM CONTACT WITH OXIDIZING MATERIALS.

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SECTION IX. SPILL, LEAK, AND DISPOSAL PROCEDURES

SMALL AMOUNT - FLUSH MATERIAL TO SEWER WITH LARGE AMOUNTS OF WATER.

LARGE AMOUNT - PACKAGE APPROPRIATELY FOR SAFE FEED TO AN INCINERATOR OR DISSOLVE IN COMPATIBLE WASTE SOLVENTS PRIOR TO INCINERATION.

DISPOSE IN AN APPROVED INCINERATOR EQUIPPED WITH AFTERBURNER AND SCRUBBER OR CONTRACT WITH LICENSED CHEMICAL WASTE DISPOSAL SERVICE.

DISCHARGE, TREATMENT, OR DISPOSAL MAY BE SUBJECT TO FEDERAL, STATE, OR LOCAL LAWS.

SECTION X. ENVIRONMENTAL EFFECTS DATA

A. SUMMARY:

SOME PUBLISHED DATA ARE AVAILABLE FOR THIS CHEMICAL, AND THESE DATA HAVE BEEN USED TO PROVIDE THE FOLLOWING ESTIMATE OF ENVIRONMENTAL IMPACT: 1,2

THIS CHEMICAL HAS A MODERATE BIOLOGICAL OXYGEN DEMAND, AND IT MAY CAUSE OXYGEN DEPLETION IN AQUATIC SYSTEMS. THIS CHEMICAL IS MODERATELY BIODEGRADABLE AND IS NOT EXPECTED TO PERSIST IN THE ENVIRONMENT. IT IS NOT LIKELY TO BIOCONCENTRATE. IF DILUTED WITH WATER, THIS CHEMICAL RELEASED INTO THE ENVIRONMENT IS NOT EXPECTED TO HAVE A SIGNIFICANT IMPACT.

B. BIODEGRADABILITY:

TREATMENT OF DL-PROLINE WITH ACTIVATED SLUDGE LED TO AN OXIDATION OF 4.8 % OF THOD, 13.1 % OF THOD, AND 25.2 % OF THOD AFTER 6-, 12-, AND 24-HOURS, RESPECTIVELY.

C. BIOCONCENTRATION POTENTIAL:

OCTANOL/WATER PARTITION COEFFICIENT: $\text{LDG } P = -2.54$; $P = 0.0029(2)$

SECTION XI. TRANSPORTATION

FOR TRANSPORTATION INFORMATION REGARDING THIS PRODUCT, PLEASE PHONE THE EASTMAN KODAK DISTRIBUTION CENTER NEAREST YOU: ROCHESTER, NY (716) 254-1300; DAK BROOK, IL (312) 654-5300; CHAMBLEE, GA (404) 455-0123; DALLAS, TX (214) 241-1611; WHITTIER, CA (213) 945-1255; HONOLULU, HI (808) 833-1661.

SECTION XII. REFERENCES

1. VERSCHUEREN, K., HANDBOOK OF ENVIRONMENTAL DATA ON ORGANIC CHEMICALS, SECOND EDITION, VAN NOSTRAND REINHOLD COMPANY, NEW YORK, N.Y., 1983.
2. POMONA COLLEGE, MEDICINAL CHEMISTRY PROJECT, "CHEMICAL PARAMETER DATA BASE," LED, A.J. AND HANSCH, C., EDS., SEAVER CHEMISTRY LABORATORY, CLAREMONT, CALIFORNIA, JUNE 22, 1983.

THE INFORMATION HEREIN IS BELIEVED TO BE CORRECT AS OF THE DATE HEREOF, BUT IS PROVIDED WITHOUT ANY WARRANTY OF ANY KIND.

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