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SECTION 1. - - - - - CHEMICAL IDENTIFICATION- - - - -

CATALOG #: C85557
NAME: COUMARIN

SECTION 2. - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - -

CAS #: 91-64-5
MF: C9H6O2
EC NO: 202-086-7

SYNONYMS

2H-1-BENZOPYRAN-2-ONE * 2H-1-BENZOPYRAN, 2-OXO- * BENZO-ALPHA-PYRONE *
1,2-BENZOPYRONE * CINNAMIC ACID, O-HYDROXY-, DELTA-LACTONE * CIS-O-
COUMARINIC ACID LACTONE * COUMARINIC ANHYDRIDE * CUMARIN * O-
HYDROXYCINNAMIC ACID LACTONE * O-HYDROXYCINNAMIC LACTONE * O-
HYDROXYZIMTSAURE-LACTON (GERMAN) * KUMARIN (CZECH) * NCI C07103 * 2-
OXO-1,2-BENZOPYRAN * 2-PROPENOIC ACID, 3-(2-HYDROXYPHENYL)-DELTA-
LACTONE * RATTEX * TONKA BEAN CAMPHOR *

SECTION 3. - - - - - HAZARDS IDENTIFICATION - - - - -

LABEL PRECAUTIONARY STATEMENTS

TOXIC

TOXIC BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.
POSSIBLE RISK OF IRREVERSIBLE EFFECTS.

POSSIBLE CARCINOGEN.

TARGET ORGAN(S):

LIVER

IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE
IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).

WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE
PROTECTION.

DO NOT BREATHE DUST.

SECTION 4. - - - - - FIRST-AID MEASURES- - - - -

IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES OR SKIN WITH COPIOUS
AMOUNTS OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED
CLOTHING AND SHOES.

IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL
RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.

IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS.
CALL A PHYSICIAN.

WASH CONTAMINATED CLOTHING BEFORE REUSE.

SECTION 5. - - - - - FIRE FIGHTING MEASURES - - - - -

EXTINGUISHING MEDIA

WATER SPRAY.

CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.

SPECIAL FIREFIGHTING PROCEDURES

WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO
PREVENT CONTACT WITH SKIN AND EYES.

SECTION 6. - - - - - ACCIDENTAL RELEASE MEASURES- - - - -

EVACUATE AREA.

WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY
RUBBER GLOVES.

SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL.

AVOID RAISING DUST.

VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

SECTION 7. - - - - - HANDLING AND STORAGE- - - - -

REFER TO SECTION 8.

SECTION 8. - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - -

WEAR APPROPRIATE NIOSH/MSHA-APPROVED RESPIRATOR, CHEMICAL-RESISTANT GLOVES, SAFETY GOGGLES, OTHER PROTECTIVE CLOTHING.

SAFETY SHOWER AND EYE BATH.

USE ONLY IN A CHEMICAL FUME HOOD.

DO NOT BREATHE DUST.

AVOID CONTACT WITH EYES, SKIN AND CLOTHING.

AVOID PROLONGED OR REPEATED EXPOSURE.

WASH THOROUGHLY AFTER HANDLING.

TOXIC.

POSSIBLE CARCINOGEN.

KEEP TIGHTLY CLOSED.

STORE IN A COOL DRY PLACE.

SECTION 9. - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - -

APPEARANCE AND ODOR

WHITE CRYSTALLINE SOLID

PHYSICAL PROPERTIES

BOILING POINT: 298 C

MELTING POINT: 69 C TO 73 C

VAPOR PRESSURE: 0.01MM 47 C

SECTION 10. - - - - - STABILITY AND REACTIVITY - - - - -

INCOMPATIBILITIES

STRONG OXIDIZING AGENTS

STRONG ACIDS

STRONG BASES

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS

TOXIC FUMES OF:

CARBON MONOXIDE, CARBON DIOXIDE

SECTION 11. - - - - - TOXICOLOGICAL INFORMATION - - - - -

ACUTE EFFECTS

HARMFUL IF SWALLOWED, INHALED, OR ABSORBED THROUGH SKIN.

MAY CAUSE IRRITATION.

CHRONIC EFFECTS

POSSIBLE CARCINOGEN.

TARGET ORGAN(S):

LIVER

RTECS #: GN4200000

COUMARIN

TOXICITY DATA

ORL-RAT LD50:293 MG/KG

FCTXAV 12,385,1974

ORL-MUS LD50:196 MG/KG

YKKZAJ 83,1124,1963

IPR-MUS LD50:220 MG/KG

ARZNAD 15,897,1965

SCU-MUS LD50:242 MG/KG

YKKZAJ 83,1124,1963

ORL-GPG LD50:202 MG/KG

FCTXAV 2,327,1964

TARGET ORGAN DATA

BEHAVIORAL (SOMNOLENCE)

BEHAVIORAL (ANALGESIA)

LIVER (LIVER FUNCTION TESTS IMPAIRED)

LIVER (OTHER CHANGES)

BIOCHEMICAL EFFECTS (TRUE CHOLINESTERASE)

ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES

(RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR

COMPLETE INFORMATION.

SECTION 12. - - - - - ECOLOGICAL INFORMATION - - - - -
DATA NOT YET AVAILABLE.

SECTION 13. - - - - - DISPOSAL CONSIDERATIONS - - - - -
DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A
CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER.
OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. - - - - - TRANSPORT INFORMATION - - - - -
CONTACT ALDRICH CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. - - - - - REGULATORY INFORMATION - - - - -

EUROPEAN INFORMATION

TOXIC

R 23/24/25

TOXIC BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.

R 40

POSSIBLE RISK OF IRREVERSIBLE EFFECTS.

S 45

IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE
IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).

S 36/37/39

WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE
PROTECTION.

S 22

DO NOT BREATHE DUST.

REVIEWS, STANDARDS, AND REGULATIONS

OEL=MAK

IARC CANCER REVIEW:ANIMAL LIMITED EVIDENCE IMEMDT 10,113,1976

IARC CANCER REVIEW:HUMAN NO ADEQUATE DATA IMEMDT 10,113,1976

IARC CANCER REVIEW:GROUP 3 IMSUDL 7,56,1987

NOHS 1974: HZD 20340; NIS 14; TNF 379; NOS 39; TNE 31272

NOES 1983: HZD 20340; NIS 113; TNF 16304; NOS 99; TNE 239705; TFE
110313

EPA TSCA SECTION 8(B) CHEMICAL INVENTORY

EPA TSCA SECTION 8(D) UNPUBLISHED HEALTH/SAFETY STUDIES

EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, APRIL 1997

NTP CARCINOGENESIS STUDIES (GAVAGE);CLEAR EVIDENCE:MOUSE

NTPTR* NTP-TR-422,93

NTP CARCINOGENESIS STUDIES (GAVAGE);SOME EVIDENCE:RAT

NTPTR* NTP-TR-422,93

SECTION 16. - - - - - OTHER INFORMATION- - - - -

THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO
BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. SIGMA, ALDRICH,
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