

MALLINCKRODT INC.,SCIENCE PRODUCTS DIVISION -- ETHYL ETHER -- 6505-00-153-8225  
===== Product Identification =====

Product ID:ETHYL ETHER  
MSDS Date:02/15/1989  
FSC:6505  
NIIN:00-153-8225  
MSDS Number: BRKSD  
=== Responsible Party ===  
Company Name:MALLINCKRODT INC.,SCIENCE PRODUCTS DIVISION  
Address:PARIS BYPASS  
Box:M  
City:PARIS  
State:KY  
ZIP:40361  
Country:US  
Info Phone Num:314-982-5000  
Emergency Phone Num:314-982-5000  
CAGE:62910  
=== Contractor Identification ===  
Company Name:MALLINCKRODT SPECIALTY CHEMICALS CO  
Address:222 RED SCHOOL LANE  
Box:City:PHILLIPSBURG  
State:NJ  
ZIP:08865  
Country:US  
Phone:908-859-2151  
CAGE:62910

===== Composition/Information on Ingredients =====

Ingred Name:ETHYL ETHER (SARA III)  
CAS:60-29-7  
RTECS #:KI5775000  
Other REC Limits:NONE DETERMINED  
OSHA PEL:400 PPM/500 STEL  
ACGIH TLV:400PPM/500STEL; 9192  
EPA Rpt Qty:100 LBS  
DOT Rpt Qty:100 LBS

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Hazards Identification  
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LD50 LC50 Mixture:ORAL LD50 (RAT) IS 1215 MG/KG

Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES

Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO

Health Hazards Acute and Chronic:INHALATION-IRRITANT. GENERAL

ANESTHESIA BY INHALATION. CONTINUED EXPOSURE MAY LEAD TO RESPIRATORY FAILURE OR DEATH. INGESTION-IRRITATING TO THE MUCOUS MEMBRANES. INGESTION OF 1-2 OUNCES MAY BE FATAL. SKIN-IRRITATING TO THE SKIN & MUCOU

S MEMBRANES. EYE-MAY CAUSE IRRITATION. PROLONGED EXPOSURE CAN CAUSE EYE DAMAGE.

Explanation of Carcinogenicity:NOT CARCINOGENIC.

Effects of Overexposure:INHALATION-IRRITATION OF NOSE & THROAT, VOMITING & IRREGULAR RESPIRATION, FOLLOWED BY DIZZINESS, DROWSINESS & UNCONSCIOUSNESS. INGESTION-THE STOMACH BECOMES DISTENDED, WHICH CAUSE BELCHING, VOMITING, UNCONSCIOUSNESS & COMA. PROLONGED EXPOSURES MAY RESULT IN HEADACHE, DROWSINESSM EXCITATION AND PSYCHIC DISTURBANCES.

Medic

al Cond Aggravated by Exposure:PERSONS WITH PRE-EXISTING SKIN DISORDERS OR EYE PROBLEMS OR IMPAIRED LIVER, KIDNEY OR RESPIRATORY FUNCTION MAY BE MORE SUSCEPTIBLE TO THE EFFECTS OF THIS SUBSTANCE.

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First Aid Measures  
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First Aid:INHALATION-REMOVE TO FRESH AIR. IF NOT BREATHING PERFORM CPR. IF HARD TO BREATHE, GIVE OXYGEN. CALL PHYSICIAN. INGESTION-INDUCE VOMITING BY GIVING 2 GLASSES OF WATER & STICKING FINGER DOWN THROAT. CALL P

HYSICIAN. SKIN-WASH SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MIN. GET MEDICAL ATTENTION. EYE-WASH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MIN. CALL A PHYSICIAN.

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Fire Fighting Measures  
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Flash Point Method:CC

Flash Point:-49F,-45C

Autoignition Temp:Autoignition Temp Text:160C

Lower Limits:1.9

Upper Limits:36.0

Extinguishing Media:DRY CHEMICAL, FOAM OR CARBON DIOXIDE. TREAT AS A FLAMMABLE GAS IN A FIRE SITUATION. USE WATER TO COOL EXPOSE

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## CONTAINERS

Fire Fighting Procedures: IN THE EVENT OF A FIRE, WEAR FULL PROTECTIVE CLOTHING & NIOSH-APPROVED SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN THE PRESSURE DEMAND.

Unusual Fire/Explosion Hazard: ABOVE FLASH POINT, VAPOR-AIR MIXTURES ARE EXPLOSIVE WITHIN FLAMMABLE LIMITS. MAY FORM EXPLOSIVE PEROXIDES ON LONG STANDING OR AFTER EXPOSURE TO AIR OR LIGHT.

### ===== Accidental Release Measures =====

Spill Release Procedures:

REMOVE ALL SOURCES OF IGNITION. VENT AREA. USE RESP PROTECTION & PROTCTV CLOTHG. CONTAIN AND RECOVER LIQUID WHEN POSSIBLE. ABSORB WITH VERMICULITE, DRY SAND, EARTH OR SIMILIAR MATERIAL. SCOOP UP WITH NONSPARKING TOOLS & PLACE IN A CLOSED CONTAINER.

### ===== Handling and Storage =====

Handling and Storage Precautions: PROTCT AGAINST PHYSICAL DAMAGE. OUTSIDE OR DETACHED STORAGE PREFERRED. INSIDE STORAGE SHOULD BE STANDARD FLAMMABLE LIQUID S TORAGE ROOM OR CABINET.

Other Precautions: SEPERATE FROM OXDIZING MATERIALS. STORAGE & USE SHOULD BE NO SMOKING AREAS. ISOLATE FROM OTHER COMBUSTIBLE MATERIAL. PROTECT FROM DIRECT SUNLIGHT.

### ===== Exposure Controls/Personal Protection =====

Respiratory Protection: IF THE TLV IS EXCEEDED A FULL FACEPIECE CHEMICAL CARTRIDGE RESPIRATOR MAY BE WORN UP TO THE MAXIMUM USE CONCENTRATION SPECIFIED BY THE RESPIRATOR. ALTERNATIVELY, A SUPPLIED AIR FULL FACEPIECE RESPIR AT OR OR AIRLINED HOOD MAY BE WORN.

Ventilation: A SYSTEM OF LOCAL AND/OR GENERAL EXHAUST IS RECOMMENDED TO KEEP EMPLOYEE EXPOSURE BELOW EXPOSURE LIMITS.

Protective Gloves: WEAR PROTECTIVE GLOVES.

Eye Protection: USE CHEMICAL SAFETY GOGGLES.

Other Protective Equipment: WEAR CLEAN BODY COVERING.

Work Hygienic Practices: MAINTAIN EYE WASH FOUNTAIN AND QUICK DRENCH FACILITIES IN WORK AREA.

Supplemental Safety and Health

DANGER! DO NOT OPEN UNLESS CONTENTS ARE AT ROOM TEMPERATURE (72F) OR

BELOW. ALLOW ATLEAST 24 HOURS FOR MATERIAL TO COOL TO ROOM TEMPERATURE BEFORE OPENING CONTAINER. DANGER! EXREMELY FLAMMABLE. HARMFU L IF SWALLOWED OR INHALED.

===== Physical/Chemical Properties =====

HCC:F2

Boiling Pt:B.P. Text:95.0F,35.0C

Melt/Freeze Pt:M.P/F.P Text:-189F,-123C

Vapor Pres:422 MMHG

Vapor Density:2.6

Spec Gravity:0.71

Evaporation Rate & Reference:37.5 (BU-AC=1)

Solubility in Water:7.5 GM/100 GM WATER.

Appearance and Odor:COLORLESS LIQUID

. SWEET, ETHEREAL ODOR.

===== Stability and Reactivity Data =====

Stability Indicator/Materials to Avoid:YES

CAN REACT DANGEROUSLY WITH ACETYL PEROXIDE, LIQUID AIR, BROMOAZIDE, CHLORINE, AND STRONG OXIDIZERS SUCH AS NITRATES.

Stability Condition to Avoid:HEAT, LIGHT & LONG STANDING CONTRIBUTE TO INSTABILITY. REACTS ITH AIR TO FORM EXPLOSIVE PEROXIDES.

Hazardous Decomposition Products:TOXIC GASES AND VAPORS SUCH AS CARBON MONOXIDE MAY BE RELEASED IN A FIRE.

===== Disposal Considerations =====

Waste Disposal Methods:COLLECT SPILLS & DISSOLVE IN AN ALCOHOL OF GREATER MOLCULAR WEIGHT THAN BUTYL ALCOHOL, THEN ATOMIZE IN AN RCRA APPROVED COMBUSTION CHAMBER. ETHER SHOULD NOT BE FLUSHED TO SEWER BECAUSE OF THE POSSIBIL ITY OF AN EXPLOSION; ENSURE COMPLIANCE.

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