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CLOVE OIL
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MATERIAL SAFETY DATA SHEET

FISHER SCIENTIFIC
CHEMICAL DIVISION
1 REAGENT LANE
FAIR LAWN NJ 07410
(201) 796-7100

EMERGENCY NUMBER: (201) 796-7100
CHEMTREC ASSISTANCE: (800) 424-9300

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SUBSTANCE IDENTIFICATION

SUBSTANCE: **CLOVE OIL**

CAS-NUMBER 8000-34-8

TRADE NAMES/SYNONYMS:
CARYOPHYLLUS OIL; OIL OF CLOVES; O-55; ACC05214

MOLECULAR FORMULA: VARIABLE

MOLECULAR WEIGHT: VARIABLE

CERCLA RATINGS (SCALE 0-3): HEALTH=2 FIRE=0 REACTIVITY=0 PERSISTENCE=0
NFPA RATINGS (SCALE 0-4): HEALTH=2 FIRE=0 REACTIVITY=0

COMPONENTS AND CONTAMINANTS

COMPONENT: EUGENOL PERCENT: 80

OTHER CONTAMINANTS: 20% UNKNOWN

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

PHYSICAL DATA

DESCRIPTION: COLORLESS TO PALE YELLOW LIQUID, BECOMING DARKER AND THICKER WITH AGE. BOILING POINT: 482 F (250 C) SPECIFIC GRAVITY: 1.0
EVAPORATION RATE: 1 (ETHER = 1) SOLUBILITY IN WATER: INSOLUBLE
SOLVENT SOLUBILITY: ALCOHOL, ETHER, SLIGHTLY IN GLACIAL ACETIC ACID

FIRE AND EXPLOSION DATA

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

FLASH POINT: NON-FLAMMABLE

FIREFIGHTING MEDIA:
DRY CHEMICAL, CARBON DIOXIDE, WATER SPRAY OR REGULAR FOAM
(1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5).

FOR LARGER FIRES, USE WATER SPRAY, FOG OR REGULAR FOAM
(1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5).

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

TOXICITY

CLOVE OIL:
2650 MG/KG ORAL-RAT LD50; 5000 MG/KG SKIN-RABBIT LD50; MUTATION DATA (RTEC);
CARCINOGEN STATUS: NONE.
CLOVE OIL IS AN EYE, SKIN, AND MUCOUS MEMBRANE IRRITANT. IT MAY AFFECT THE CENTRAL NERVOUS SYSTEM IF INGESTED OR INHALED. IT IS USED AS AN ANALGESIC, ANTISEPTIC, AND ANESTHETIC IN MEDICAL TREATMENT FOR EXTERNAL USE ONLY.

HEALTH EFFECTS AND FIRST AID

INHALATION:
CLOVE OIL:

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IRRITANT.
ACUTE EXPOSURE- MAY CAUSE DIZZINESS, SHALLOW BREATHING, BRONCHIAL IRRITATION RAPID HEART BEAT, UNCONSCIOUSNESS, AND CONVULSIONS. RECOVERY MAY BE COMPLICATED BY ANURIA, PULMONARY EDEMA, OR BRONCHIAL PNEUMONIA.
CHRONIC EXPOSURE- MAY CAUSE MUCOUS MEMBRANE IRRITATION.

FIRST AID- REMOVE FROM EXPOSURE AREA TO FRESH AIR IMMEDIATELY. IF BREATHING HAS STOPPED, GIVE ARTIFICIAL RESPIRATION. MAINTAIN AIRWAY AND BLOOD PRESSURE AND ADMINISTER OXYGEN IF AVAILABLE. KEEP AFFECTED PERSON WARM AND AT REST. TREAT SYMPTOMATICALLY AND SUPPORTIVELY. ADMINISTRATION OF OXYGEN SHOULD BE PERFORMED BY QUALIFIED PERSONNEL. GET MEDICAL ATTENTION IMMEDIATELY.

SKIN CONTACT:

CLOVE OIL:
IRRITANT.
ACUTE EXPOSURE- MAY CAUSE IRRITATION.
CHRONIC EXPOSURE- REPEATED OR PROLONGED CONTACT MAY CAUSE DERMATITIS.

FIRST AID- REMOVE CONTAMINATED CLOTHING AND SHOES IMMEDIATELY. WASH AFFECTED AREA WITH SOAP OR MILD DETERGENT AND LARGE AMOUNTS OF WATER UNTIL NO EVIDENCE OF CHEMICAL REMAINS (APPROXIMATELY 15-20 MINUTES). GET MEDICAL ATTENTION IMMEDIATELY.

EYE CONTACT:

CLOVE OIL:
IRRITANT.
ACUTE EXPOSURE- CONTACT MAY CAUSE REDNESS, PAIN, AND IRRITATION.
CHRONIC EXPOSURE- REPEATED OR PROLONGED CONTACT MAY CAUSE CONJUNCTIVITIS.

FIRST AID- WASH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER OR NORMAL SALINE, OCCASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL REMAINS (APPROXIMATELY 15-20 MINUTES). GET MEDICAL ATTENTION IMMEDIATELY.

INGESTION:

CLOVE OIL:
IRRITANT.
ACUTE EXPOSURE- MAY CAUSE ABDOMINAL BURNING, NAUSEA, VOMITING, DIARRHEA, GASTROENTERITIS, SHALLOW RESPIRATION, PAINFUL OR BLOODY URINATION, UNCONSCIOUSNESS, AND CONVULSIONS. SEVERE POISONING MAY CAUSE RENAL DEGENERATIVE CHANGES, INTENSE CONGESTION AND EDEMA IN LUNGS, BRAIN, AND GASTRIC MUCOSA. MAY INDUCE ABORTIONS.
CHRONIC EXPOSURE- NO EFFECTS HAVE BEEN REPORTED IN HUMANS.

FIRST AID- REMOVE CHEMICAL BY IPECAC EMESIS OR GIVE MILK, OLIVE OIL OR VEGETABLE OIL FOLLOWED BY GASTRIC LAVAGE. ACTIVATED CHARCOAL IS ALSO USEFUL. FOLLOW WITH 60 MILLILITERS OF CASTOR OIL FOLLOWED BY 30-60 ML OF FLEET'S PHOSPHO-SODA DILUTED 1:4 IN WATER OR BY SALINE CATHARTIC. MAINTAIN AIRWAY, RESPIRATION, AND BLOOD PRESSURE. (DREISBACH, HANDBOOK OF POISONING, 11TH ED. ARENA, POISONING, 4TH ED.). LAVAGE MUST BE ADMINISTERED BY QUALIFIED MEDICAL PERSONNEL.

ANTIDOTE:
NO SPECIFIC ANTIDOTE. TREAT SYMPTOMATICALLY AND SUPPORTIVELY.

REACTIVITY

REACTIVITY:
STABLE UNDER NORMAL TEMPERATURES AND PRESSURES.

INCOMPATIBILITIES:
NONE KNOWN.

DECOMPOSITION:
NONE HAZARDOUS.

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

CONDITIONS TO AVOID

NONE REPORTED.

SPILL AND LEAK PROCEDURES

OCCUPATIONAL SPILL:
NO SPECIAL PRECAUTIONS INDICATED.

PROTECTIVE EQUIPMENT

VENTILATION:
PROVIDE LOCAL EXHAUST OR GENERAL DILUTION VENTILATION SYSTEM.

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RESPIRATOR:

THE FOLLOWING RESPIRATORS ARE RECOMMENDED BASED ON INFORMATION FOUND IN THE PHYSICAL DATA, TOXICITY AND HEALTH EFFECTS SECTIONS. THEY ARE RANKED IN ORDER FROM MINIMUM TO MAXIMUM RESPIRATORY PROTECTION. THE SPECIFIC RESPIRATOR SELECTED MUST BE BASED ON CONTAMINATION LEVELS FOUND IN THE WORK PLACE. MUST BE BASED ON THE SPECIFIC OPERATION. MUST NOT EXCEED THE WORKING LIMITS OF THE RESPIRATOR AND MUST BE JOINTLY APPROVED BY THE NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH AND THE MINE SAFETY AND HEALTH ADMINISTRATION (NIOSH-MSHA).

ANY TYPE 'C' SUPPLIED-AIR RESPIRATOR WITH A FULL FACEPIECE OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE OR WITH A FULL FACEPIECE, HELMET OR HOOD OPERATED IN CONTINUOUS-FLOW MODE.

ANY SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE.

CLOTHING:

EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE (IMPERVIOUS) CLOTHING AND EQUIPMENT TO PREVENT ANY POSSIBILITY OF SKIN 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.

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.

AUTHORIZED - FISHER SCIENTIFIC, INC.
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