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SHIPCO BRAND PROXY
 MATERIAL SAFETY DATA SHEET
 DATE PREPARED: 07/22/98
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1. CHEMICAL PRODUCT AND COMPANY DESCRIPTION

RHONE-POULENC AG COMPANY
 AGRICULTURAL CHEMICALS
 2 T.W. ALEXANDER DRIVE
 P.O. BOX 12014

RESEARCH TRIANGLE PK NC 27709

EMERGENCY PHONE NUMBERS: FOR EMERGENCIES INVOLVING A SPILL, LEAK, FIRE,
 EXPOSURE OR ACCIDENT CONTACT: CHEMTREC (800-424-9300 WITHIN THE UNITED
 STATES OR 703-527-3887 FOR INTERNATIONAL COLLECT CALLS) OR DART (THE
 DISTRIBUTION ASSISTANCE RESPONSE TEAM) AT 800-334-7577.

FOR PRODUCT INFORMATION: (800) 334-9745

PRODUCT STATUS: FIFRA REGULATED USE ONLY.

EPA FIFRA REGISTRATION NUMBER: 264-267

CHEMICAL NAME OR SYNONYM: ETHEPHON

MOLECULAR FORMULA: C₂H₆ClO₃P

2. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT	CAS REG NUMBER	OSHA HAZARD	PERCENTAGE
ETHEPHON ((2-CHLOROETHYL) PHOSPHONIC ACID)	16672-87-0	Y	21.7
OTHER INGREDIENTS (TRADE SECRET)	*****	N	BALANCE

3. HAZARDS IDENTIFICATION

A. EMERGENCY OVERVIEW:

PHYSICAL APPEARANCE AND ODOR: CLEAR / LIQUID, NEUTRAL ODOR.

WARNING STATEMENTS: WARNING!! HARMFUL IF SWALLOWED. CAUSES SUBSTANTIAL, BUT
 TEMPORARY, EYE INJURY.

B. POTENTIAL HEALTH EFFECTS:

ACUTE EYE: LIQUID OR VAPOR CAN CAUSE REDNESS, TEARING, IRRITATION, EYE
 INJURY WHICH MAY PERSIST FOR SEVERAL DAYS.

ACUTE SKIN: HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE REDNESS,
 IRRITATION, SWELLING, ON PROLONGED CONTACT.

ACUTE INHALATION: HARMFUL IF INHALED. MISTS MAY CAUSE UPPER RESPIRATORY
 TRACT IRRITATION, COUGHING, SORE THROAT.

ACUTE INGESTION: HARMFUL IF INGESTED. MAY CAUSE BURNS TO MOUTH AND
 ESOPHAGUS, CHEST PAIN, ABDOMINAL PAIN.

CHRONIC EFFECTS: THIS PRODUCT DOES NOT CONTAIN ANY INGREDIENT DESIGNATED
 BY IARC, NTP, ACGIH OR OSHA AS PROBABLE OR SUSPECTED HUMAN CARCINOGENS.
 PROLONGED CONTACT CAN CAUSE CHRONIC BRONCHITIS.

4. FIRST AID MEASURES

FIRST AID MEASURES FOR ACCIDENTAL:

EYE EXPOSURE: HOLD EYELIDS OPEN AND FLUSH WITH A STEADY, GENTLE STREAM OF
 WATER FOR AT LEAST 15 MINUTES. SEEK IMMEDIATE MEDICAL ATTENTION, PREFERABLY
 WITH AN OPHTHALMOLOGIST. IF THE PHYSICIAN IS NOT IMMEDIATELY AVAILABLE,
 EYE IRRIGATION SHOULD BE CONTINUED FOR AN ADDITIONAL 15 MINUTES. IF IT IS

EYE IRRIGATION SHOULD BE CONTINUED FOR AN ADDITIONAL 15 MINUTES. IF IT IS NECESSARY TO TRANSPORT THE PATIENT TO A PHYSICIAN AND THE EYE NEEDS TO BE BANDAGED, USE A DRY STERILE CLOTH PAD AND COVER BOTH EYES.

SKIN EXPOSURE: IN CASE OF CONTACT, IMMEDIATELY WASH WITH PLENTY OF SOAP AND WATER FOR AT LEAST 15 MINUTES. PARTICULAR ATTENTION SHOULD BE PAID TO HAIR, NOSE, EARS AND OTHER AREAS NOT EASILY CLEANED. SEEK IMMEDIATE MEDICAL ATTENTION. REMOVE CONTAMINATED CLOTHING AND SHOES WHILE WASHING. CLEAN CONTAMINATED CLOTHING AND SHOES BEFORE RE-USE OR DISCARD IF THEY CANNOT BE THOROUGHLY CLEANED. HEAVILY CONTAMINATED SHOES AND CLOTHING SHOULD BE DISCARDED IN A MANNER WHICH LIMITS FURTHER EXPOSURE. LAUNDRY CONTAMINATED CLOTHING SEPARATELY.

INHALATION: REMOVE VICTIM FROM IMMEDIATE SOURCE OF EXPOSURE AND ASSURE THAT THE VICTIM IS BREATHING. IF BREATHING IS DIFFICULT, ADMINISTER OXYGEN, IF AVAILABLE. IF VICTIM IS NOT BREATHING, ADMINISTER CPR (CARDIO-PULMONARY RESUSCITATION). SEEK MEDICAL ATTENTION.

INGESTION: IF VICTIM IS CONSCIOUS AND ALERT, GIVE 2-3 GLASSES OF WATER TO DRINK AND DO NOT INDUCE VOMITING. SEEK IMMEDIATE MEDICAL ATTENTION. DO NOT LEAVE VICTIM UNATTENDED. TO PREVENT ASPIRATION OF SWALLOWED PRODUCT, LAY VICTIM ON SIDE WITH HEAD LOWER THAN WAIST. VOMITING MAY OCCUR SPONTANEOUSLY. IF VOMITING OCCURS AND THE VICTIM IS CONSCIOUS, GIVE WATER TO FURTHER DILUTE THE CHEMICAL.

MEDICAL CONDITIONS POSSIBLY AGGRAVATED BY EXPOSURE: INHALATION OF PRODUCT MAY AGGRAVATE EXISTING CHRONIC RESPIRATORY PROBLEMS SUCH AS ASTHMA, EMPHYSEMA OR BRONCHITIS. SKIN CONTACT MAY AGGRAVATE EXISTING SKIN DISEASE. NOTES TO PHYSICIAN: ALL TREATMENTS SHOULD BE BASED ON OBSERVED SIGNS AND SYMPTOMS OF DISTRESS IN THE PATIENT. CONSIDERATION SHOULD BE GIVEN TO THE POSSIBILITY THAT OVEREXPOSURE TO MATERIALS OTHER THAN THIS PRODUCT MAY HAVE OCCURRED.

TREAT SYMPTOMATICALLY. NO SPECIFIC ANTIDOTE AVAILABLE. THE PRIMARY TOXICITY OF THIS PRODUCT IS DUE TO ITS IRRITANT PROPERTIES ON MUCOSAL SURFACES. VICTIMS OF SEVERE OVEREXPOSURE BY INHALATION SHOULD BE KEPT UNDER MEDICAL OBSERVATION FOR UP TO 72 HOURS FOR DELAYED ONSET OF PULMONARY EDEMA.

IN A PATIENT WITH SEVERE OVEREXPOSURE BY INGESTION, CAREFUL GASTRIC LAVAGE IS REQUIRED DUE TO THE POSSIBILITY OF STOMACH OR ESOPHAGEAL PERFORATION. THIS MATERIAL IS AN ACID, BUT THE USE OF ALKALINE SUBSTANCES TO NEUTRALIZE IS CONTRAINDICATED.

5. FIRE FIGHTING MEASURES

FIRE HAZARD DATA:

FLASH POINT: NOT APPLICABLE

EXTINGUISHING MEDIA: NOT COMBUSTIBLE. USE EXTINGUISHING METHOD SUITABLE FOR SURROUNDING FIRE.

SPECIAL FIRE FIGHTING PROCEDURES: FIREFIGHTERS SHOULD WEAR NIOSH/MSHA APPROVED SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING. DIKE AREA TO PREVENT RUNOFF AND CONTAMINATION OF WATER SOURCES. DISPOSE OF FIRE CONTROL WATER LATER.

UNUSUAL FIRE AND EXPLOSION HAZARDS: UNDER FIRE CONDITIONS, TOXIC, CORROSIVE FUMES ARE EMITTED.

HAZARDOUS DECOMPOSITION MATERIALS (UNDER FIRE CONDITIONS):

HYDROGEN CHLORIDE

OXIDES OF CARBON

6. ACCIDENTAL RELEASE MEASURES

EVACUATION PROCEDURES AND SAFETY: WEAR APPROPRIATE PROTECTIVE GEAR FOR THE SITUATION. SEE PERSONAL PROTECTION INFORMATION IN SECTION 8.

CONTAINMENT OF SPILL: DIKE SPILL USING ABSORBENT OR IMPERVIOUS MATERIALS SUCH AS EARTH, SAND OR CLAY. FOLLOW PROCEDURE DESCRIBED BELOW UNDER CLEANUP AND DISPOSAL OF SPILL.

CLEANUP AND DISPOSAL OF SPILL: PUMP ANY FREE LIQUID INTO AN APPROPRIATE

CLEANUP AND DISPOSAL OF SPILL: PUMP ANY FREE LIQUID INTO AN APPROPRIATE CLOSED CONTAINER (SEE SECTION 7: HANDLING AND STORAGE). ABSORB WITH AN INERT ABSORBENT. SWEEP UP AND PLACE IN AN APPROPRIATE CLOSED CONTAINER (SEE SECTION 7: HANDLING AND STORAGE). CLEAN UP RESIDUAL MATERIAL BY WASHING AREA WITH WATER. COLLECT WASHINGS FOR DISPOSAL. DECONTAMINATE TOOLS AND EQUIPMENT FOLLOWING CLEANUP.

ENVIRONMENTAL AND REGULATORY REPORTING: DO NOT FLUSH TO DRAIN. IF SPILLED ON THE GROUND, THE AFFECTED AREA SHOULD BE REMOVED TO A DEPTH OF ONE OR TWO INCHES AND PLACED IN AN APPROPRIATE CONTAINER FOR DISPOSAL. PREVENT MATERIAL FROM ENTERING PUBLIC SEWER SYSTEM OR ANY WATERWAYS.

7. HANDLING AND STORAGE

MINIMUM/MAXIMUM STORAGE TEMPERATURES: NOT AVAILABLE

HANDLING: DO NOT GET ON SKIN OR IN EYES. AVOID BREATHING VAPORS AND MISTS. DO NOT INGEST. AVOID GETTING MATERIAL ON CLOTHING. DO NOT CONTAMINATE WATER SOURCES, FOOD OR FEEDSTUFFS WHEN DISPOSING OF LEFT-OVER MATERIAL.

STORAGE: STORE IN AN AREA THAT IS AWAY FROM FOOD, FEEDSTUFFS, FERTILIZERS, SEED AND WATER SOURCES.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

INTRODUCTORY REMARKS: THESE RECOMMENDATIONS PROVIDE GENERAL GUIDANCE FOR HANDLING THIS PRODUCT. BECAUSE SPECIFIC WORK ENVIRONMENTS AND MATERIAL HANDLING PRACTICES VARY, SAFETY PROCEDURES SHOULD BE DEVELOPED FOR EACH INTENDED APPLICATION. WHILE DEVELOPING SAFE HANDLING PROCEDURES, DO NOT OVERLOOK THE NEED TO CLEAN EQUIPMENT AND PIPING SYSTEMS FOR MAINTENANCE AND REPAIRS. WASTE RESULTING FROM THESE PROCEDURES SHOULD BE HANDLED IN ACCORDANCE WITH SECTION 13: DISPOSAL CONSIDERATIONS.

ASSISTANCE WITH SELECTION, USE AND MAINTENANCE OF WORKER PROTECTION EQUIPMENT IS GENERALLY AVAILABLE FROM EQUIPMENT MANUFACTURERS.

EXPOSURE GUIDELINES: NO EXPOSURE LIMITS WERE FOUND FOR THIS PRODUCT OR ANY OF ITS INGREDIENTS.

ENGINEERING CONTROLS: WHERE ENGINEERING CONTROLS ARE INDICATED BY USE CONDITIONS OR A POTENTIAL FOR EXCESSIVE EXPOSURE EXISTS, THE FOLLOWING TRADITIONAL EXPOSURE CONTROL TECHNIQUES MAY BE USED TO EFFECTIVELY MINIMIZE EMPLOYEE EXPOSURES.

RESPIRATORY PROTECTION: WHEN RESPIRATORS ARE REQUIRED, SELECT NIOSH/MSHA APPROVED EQUIPMENT BASED ON ACTUAL OR POTENTIAL AIRBORNE CONCENTRATIONS AND IN ACCORDANCE WITH THE APPROPRIATE REGULATORY STANDARDS AND/OR INDUSTRIAL RECOMMENDATIONS.

UNDER NORMAL CONDITIONS, IN THE ABSENCE OF OTHER AIRBORNE CONTAMINANTS, THE FOLLOWING DEVICES SHOULD PROVIDE PROTECTION FROM THIS MATERIAL UP TO THE CONDITIONS SPECIFIED BY THE APPROPRIATE OSHA, WHMIS OR ANSI STANDARD(S): AIR-PURIFYING (HALF-MASK/FULL-FACE) RESPIRATOR WITH CARTRIDGES/CANISTER APPROVED FOR USE AGAINST DUSTS, MISTS AND FUMES, PESTICIDES.

UNDER CONDITIONS IMMEDIATELY DANGEROUS TO LIFE OR HEALTH, OR EMERGENCY CONDITIONS WITH UNKNOWN CONCENTRATIONS, USE A FULL-FACE POSITIVE PRESSURE AIR-SUPPLIED RESPIRATOR EQUIPPED WITH AN EMERGENCY ESCAPE AIR SUPPLY UNIT OR USE A SELF-CONTAINED BREATHING APPARATUS UNIT.

EYE/FACE PROTECTION: EYE AND FACE PROTECTION REQUIREMENTS WILL VARY DEPENDENT UPON WORK ENVIRONMENT CONDITIONS AND MATERIAL HANDLING PRACTICES. APPROPRIATE ANSI Z87 APPROVED EQUIPMENT SHOULD BE SELECTED FOR THE PARTICULAR USE INTENDED FOR THIS MATERIAL.

FACE CONTACT SHOULD BE PREVENTED THROUGH USE OF A FACE SHIELD.

SKIN PROTECTION: SKIN CONTACT MUST BE PREVENTED THROUGH THE USE OF PERMEATION RESISTANT CLOTHING, GLOVES AND FOOTWEAR, SELECTED WITH REGARD FOR USE CONDITIONS AND EXPOSURE POTENTIAL. AN EMERGENCY SHOWER MUST BE READILY ACCESSIBLE TO THE WORK AREA. CONSIDERATION MUST BE GIVEN BOTH TO DURABILITY AS WELL AS PERMEATION RESISTANCE.

WORK PRACTICE CONTROLS: PERSONAL HYGIENE IS AN IMPORTANT WORK PRACTICE EXPOSURE CONTROL MEASURE AND THE FOLLOWING GENERAL MEASURES SHOULD BE TAKEN

EXPOSURE CONTROL MEASURE AND THE FOLLOWING GENERAL MEASURES SHOULD BE TAKEN WHEN WORKING WITH OR HANDLING THIS MATERIAL:

- (1) DO NOT STORE, USE, AND/OR CONSUME FOODS, BEVERAGES, TOBACCO PRODUCTS, OR COSMETICS IN AREAS WHERE THIS MATERIAL IS STORED.
- (2) WASH HANDS AND FACE CAREFULLY BEFORE EATING, DRINKING, USING TOBACCO, APPLYING COSMETICS, OR USING THE TOILET.
- (3) WASH EXPOSED SKIN PROMPTLY TO REMOVE ACCIDENTAL SPLASHES OF CONTACT WITH THIS MATERIAL.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL AND CHEMICAL PROPERTIES HERE REPRESENT TYPICAL PROPERTIES OF THIS PRODUCT. CONTACT THE BUSINESS AREA USING THE PRODUCT INFORMATION PHONE NUMBER IN SECTION 1 FOR ITS EXACT SPECIFICATIONS.

PHYSICAL APPEARANCE: CLEAR / LIQUID.

ODOR: NEUTRAL ODOR.

PH: 1.92 AT 1 WT/WTX.

SPECIFIC GRAVITY: 1.1062 AT 25 C (77 F).

WATER SOLUBILITY: SOLUBLE 100 WT/WTX AT 25 C (77 F).

MELTING POINT RANGE: NOT AVAILABLE

FREEZING POINT RANGE: -5 C (23 F)

BOILING POINT RANGE: NOT AVAILABLE

VAPOR PRESSURE: << 0.01 MMHG AT 25 C (77 F)

VAPOR DENSITY: NOT AVAILABLE

MOLECULAR WEIGHT: 144.5

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: THIS MATERIAL IS STABLE UNDER NORMAL HANDLING AND STORAGE CONDITIONS DESCRIBED IN SECTION 7.

CONDITIONS TO BE AVOIDED:

ELEVATED TEMPERATURES

EXTREME HUMIDITY

MATERIALS/CHEMICALS TO BE AVOIDED:

ALUMINUM

ZINC

IRON

COPPER

STRONG OXIDIZING AGENTS

BASES

MILD STEEL

DECOMPOSITION TEMPERATURE RANGE: 170 C (338 F)

THE FOLLOWING HAZARDOUS DECOMPOSITION PRODUCTS MIGHT BE EXPECTED:

DECOMPOSITION TYPE: THERMAL

HYDROGEN CHLORIDE

OXIDES OF CARBON

HAZARDOUS POLYMERIZATION WILL NOT OCCUR.

AVOID THE FOLLOWING TO INHIBIT HAZARDOUS POLYMERIZATION: NOT APPLICABLE

11. TOXICOLOGICAL INFORMATION

ACUTE EYE IRRITATION:

TOXICOLOGICAL INFORMATION AND INTERPRETATION

EYE - EYE IRRITATION, RABBIT.

MODERATELY IRRITATING.

ACUTE SKIN IRRITATION:

TOXICOLOGICAL INFORMATION AND INTERPRETATION

SKIN - SKIN IRRITATION, RABBIT.

MINIMALLY IRRITATING.

ACUTE DERMAL TOXICITY:

TOXICOLOGICAL INFORMATION AND INTERPRETATION

LD50 - LETHAL DOSE 50% OF TEST SPECIES, > 2000 MG/KG, RABBIT.

LD50 - LETHAL DOSE 50% OF TEST SPECIES, > 2000 MG/KG, RABBIT.

ACUTE RESPIRATORY IRRITATION: NO TEST DATA FOUND FOR PRODUCT.

ACUTE INHALATION TOXICITY: NO TEST DATA FOUND FOR PRODUCT.

ACUTE ORAL TOXICITY:

TOXICOLOGICAL INFORMATION AND INTERPRETATION

LD50 - LETHAL DOSE 50% OF TEST SPECIES, > 5000 MG/KG, RAT.

CHRONIC TOXICITY: THIS PRODUCT DOES NOT CONTAIN ANY SUBSTANCES THAT ARE CONSIDERED BY OSHA, NTP, IARC OR ACGIH TO BE PROBABLE OR SUSPECTED HUMAN CARCINOGENS.

NO ADDITIONAL TEST DATA FOUND FOR PRODUCT.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

FOR ECOTOXICOLOGICAL DATA CALL THE PRODUCT INFORMATION PHONE NUMBER LISTED IN SECTION 1.

CHEMICAL FATE INFORMATION: FOR CHEMICAL FATE DATA CALL THE PRODUCT INFORMATION PHONE NUMBER LISTED IN SECTION 1.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: CHEMICAL ADDITIONS, PROCESSING OR OTHERWISE ALTERING THIS MATERIAL MAY MAKE THE WASTE MANAGEMENT INFORMATION PRESENTED IN THIS MSDS INCOMPLETE, INACCURATE OR OTHERWISE INAPPROPRIATE. PLEASE BE ADVISED THAT STATE AND LOCAL REQUIREMENTS FOR WASTE DISPOSAL MAY BE MORE RESTRICTIVE OR OTHERWISE DIFFERENT FROM FEDERAL LAWS AND REGULATIONS. CONSULT STATE AND LOCAL REGULATIONS REGARDING THE PROPER DISPOSAL OF THIS MATERIAL.

CONTAINER HANDLING AND DISPOSAL: CONSULT STATE AND LOCAL REGULATIONS REGARDING THE PROPER DISPOSAL OF CONTAINER.

EPA HAZARDOUS WASTE - YES

EPA RCRA HAZARDOUS WASTE CODES: C CORROSIVE.

14. TRANSPORTATION INFORMATION

FOR TRANSPORTATION REGULATORY INFORMATION CALL THE PRODUCT INFORMATION PHONE NUMBER IN SECTION 1.

15. REGULATION INFORMATION

FEDERAL REGULATIONS

TSCA INVENTORY STATUS: THIS PRODUCT IS EXCLUDED FROM TSCA BECAUSE IT IS SOLELY FOR FIFRA REGULATED USE.

SARA TITLE III HAZARD CLASSES:

FIRE HAZARD - NO

REACTIVE HAZARD - NO

RELEASE OF PRESSURE - NO

ACUTE HEALTH HAZARD - YES

CHRONIC HEALTH HAZARD - NO

SARA EXTREMELY HAZARDOUS SUBSTANCES (EHS)/CERCLA HAZARDOUS SUBSTANCES

INGREDIENT	CERCLA/SARA RQ	SARA EHS TPO
UNLISTED HAZARDOUS WASTES -	100 LBS	
CHARACTERISTIC OF CORROSIVITY		

STATE REGULATIONS: THIS PRODUCT DOES NOT CONTAIN ANY COMPONENTS THAT ARE REGULATED UNDER CALIFORNIA PROPOSITION 65.

16. OTHER INFORMATION

NATIONAL FIRE PROTECTION ASSOCIATION HAZARD RATINGS---NFPA(R):

2 HEALTH HAZARD RATING---MODERATE

1 FLAMMABILITY RATING---SLIGHT

1 FLAMMABILITY RATING---SLIGHT
0 INSTABILITY RATING---MINIMAL
NATIONAL PAINT & COATING HAZARDOUS MATERIALS IDENTIFICATION

2 HEALTH HAZARD RATING---MODERATE

1 FLAMMABILITY RATING---SLIGHT

0 REACTIVITY RATING---MINIMAL

REASON FOR REVISIONS: CHANGE AND/OR ADDITION MADE TO SECTION 3, SECTION 4,
SECTION 5, SECTION 6, SECTION 7, SECTION 10, SECTION 16.

KEY LEGEND INFORMATION:

ACGIH - AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS

OSHA - OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

TLV - THRESHOLD LIMIT VALUE

PEL - PERMISSABLE EXPOSURE LIMIT

TWA - TIME WEIGHTED AVERAGE

STEL - SHORT TERM EXPOSURE LIMIT

NTP - NATIONAL TOXICOLOGY PROGRAM

IARC - INTERNATIONAL AGENCY FOR RESEARCH ON CANCER

ND - NOT DETERMINED

RPI - RHONE-POULENC ESTABLISHED EXPOSURE LIMITS

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EXPRESSED OR IMPLIED, IS MADE.