

Material Safety Data Sheet

Effective Date: 05-JUN-2000  
Product: BRAVO S

I. IDENTIFICATION

Chemical Name: CHLOROTHALONIL/SULFUR  
Chemical Family: AGRICULTURAL FUNGICIDE  
Formula: NOT APPLICABLE, FORMULATED MIXTURE  
Synonyms: BRAVO-SULPHUR; DACONIL-SULPHUR  
CAS Number: SEE INGREDIENT STATEMENT, SECTION III.  
EPA Number: 5905-472

II. PHYSICAL DATA

Boiling Point: 100 DEGREES C.  
Freezing Point: <32 DEGREES F.  
Spec Gravity: 1.305 GMS/CC  
Vapor Pressure: NOT ESTABLISHED  
Vapor Density: NOT ESTABLISHED  
Solubility: ACTIVES (.5%)  
Volatiles: <1%  
Evaporation: NOT ESTABLISHED  
Melting Point: NOT APPLICABLE  
Appearance: YELLOW/TAN LIQUID, WITH SULPHUR ODOR.

III. INGREDIENTS

Material	CAS Number	Percent	TLV	Hazard
CHLOROTHALONIL (DACONIL)	01897-45-6	19.15	NOT ESTABLISHED	SKIN & EYE IRRITANT
SULPHUR	07704-34-9	27.25	NOT ESTABLISHED	HAZARDOUS COMBUSTION PRODUCT
INERT INGREDIENTS		53.60	NOT ESTABLISHED	NONHAZARDOUS

IV. FIRE AND EXPLOSION HAZARD

Flash Point: NON-COMBUSTIBLE  
Autoignition Temp: NOT APPLICABLE  
Flammable Limit: NOT APPLICABLE  
Extinguishing Media: NON-COMBUSTIBLE, USE EXTINGUISHING MEDIA FOR UNDERLYING CAUSE OF FIRE.  
Special Fire Fight Proc: WEAR SELF-CONTAINED BREATHING APPARATUS AND FULL FIRE FIGHTING PROTECTIVE EQUIPMENT. AVOID

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STRAIGHT STREAMS WHICH WILL SCATTER MOLTEN  
SULPHUR. USE WATER SPRAY ONLY.  
Fire and Expl Hazard: MAY GENERATE TOXIC FUMES UNDER FIRE  
CONDITIONS.  
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V. HEALTH HAZARD

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Carcinogen Information: NCI CARCINOGENESIS BIOASSAY INDICATES POSITIVE  
RESULTS (RATS) FOR DACONIL.  
ACUTE EFFECTS OF OVER EXPOSURE  
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Swallowing: THE ACUTE ORAL LD50 (RATS) = >5020 MG/KG (3.80  
MG/L).  
Skin Absorption: THE ACUTE DERMAL LD50 (RABBITS) = >2010 MG/KG  
(1.52 MG/L).  
Inhalation: THE ACUTE INHALATION LC50 (RATS) = >2.03 MG/L.  
MAY CAUSE IRRITATION TO RESPIRATORY TRACT.  
Skin contact: MODERATELY IRRITATING TO THE SKIN (RABBIT).  
Eye Contact: MILDLY IRRITATING TO THE EYE (RABBIT).  
Chronic Effects: NONE CURRENTLY KNOWN.  
Other Hazard: NONE CURRENTLY KNOWN.

EMERGENCY AND FIRST AID PROCEDURES

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Swallowing: GIVE 1 TO 2 GLASSES OF WATER AND INDUCE  
VOMITING. OBTAIN MEDICAL ATTENTION IMMEDIATELY.  
Skin: WASH SKIN THOROUGHLY WITH SOAP AND WATER. IF  
IRRITATION DEVELOPS, CONSULT A PHYSICIAN.  
Inhalation: MOVE TO FRESH AIR IF IRRITATION IS NOTED.  
CONSULT A PHYSICIAN IF IRRITATION PERSISTS.  
Eyes: FLUSH EYES WITH WATER FOR 15 MINUTES, HOLDING  
EYELIDS OPEN. IF IRRITATION DEVELOPS, CONSULT A  
PHYSICIAN.  
Notes to Physician: IN THE EVENT OF AN ADVERSE RESPONSE, TREATMENT  
SHOULD BE DIRECTED TOWARD CONTROL OF THE  
SYMPTOMS.  
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VI. REACTIVITY

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Stability: Stable  
Conditions to Avoid: AVOID EXCESSIVE HEAT AND OPEN FLAMES.  
Polymerization: Will Not Occur  
Conditions to Avoid: NONE CURRENTLY KNOWN.  
Incompatibility material: DO NOT MIX THIS MATERIAL WITH OXIDIZERS.  
Hazardous Combustion: SULPHUR DIOXIDE, HYDROGEN CHLORIDE, AND CARBON  
MONOXIDE UNDER FIRE CONDITIONS.  
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VII. SPILL OR LEAK PROCEDURES  
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Spill or Leak Proc: ROPE OFF CONTAMINATED AREA AND CONTAIN THE  
SPILL. ABSORB THE MATERIAL WITH CLAY OR SAWDUST  
AND PUT INTO SUITABLE CONTAINERS FOR DISPOSAL.  
DO NOT CONTAMINATE WATER WITH WASTE OR CLEANUP  
MATERIAL. THIS MATERIAL IS TOXIC TO FISH.  
Waste Disposal Method: THIS MATERIAL MUST BE DISPOSED OF ACCORDING TO  
FEDERAL, STATE, OR LOCAL PROCEDURES UNDER THE  
RESOURCE CONSERVATION AND RECOVERY ACT.

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VIII. SPECIAL PROTECTION INFORMATION  
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Respiration: PRESSURE-DEMAND, SELF-CONTAINED BREATHING  
APPARATUS OR NIOSH/MSHA APPROVED CARTRIDGE  
RESPIRATOR.  
Ventilation: LOCAL EXHAUST SUFFICIENT.  
Gloves: IMPERVIOUS  
Eyes: CHEMICAL WORKERS GOGGLES.  
Other: EYE WASH STATION, IMPERVIOUS APRON AND  
FOOTWEAR.

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IX. SPECIAL PRECAUTIONS  
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Special precaution: KEEP OUT OF REACH OF CHILDREN. DO NOT STORE  
WITH FOOD, FEED, OR OTHER MATERIAL TO BE USED  
OR CONSUMED BY HUMANS OR ANIMALS. DO NOT  
CONTAMINATE WATER SUPPLIES, LAKES, STREAMS, OR  
PONDS. DO NOT STORE THIS PRODUCT WITH MATERIALS  
LABELED AS OXIDIZERS.  
Other precaution: A) RCRA HAZARDOUS WASTE NUMBER: NOT LISTED  
B) SARA TITLE III, SECTION 313: CHLOROTHALONIL  
(19.15%)  
C) SARA THRESHOLD PLANNING QUANTITY: NOT LISTED  
D) CERCLA REPORTABLE QUANTITY: NOT LISTED  
E) CALIFORNIA PROPOSITION 65: 01/01/89  
(CARCINOGEN)  
F) 49 CFR 172.101, APPENDIX A & B: - NOT LISTED

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X. SHIPPING INFORMATION  
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Shipping name: PESTICIDES, LIQUID, TOXIC, N.O.S.,  
(CHLOROTHALONIL, SULFUR) 6.1, UN2902, PG III

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"ERG # 151"  
Hazard Class: POISON (6)  
Identification No: UN 2902  
Labels Required: POISON (6)  
Placarding: POISON (6)  
Freight Class: FUNGICIDES, AGRICULTURAL, LIQUID, NOIBN(NMFC  
ITEM 102120, CLASS 60)

Chemical Name	Equivalent R.Q.
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NOT APPLICABLE	NOT APPLICABLE

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XI. GENERAL PRODUCT INFORMATION

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National Fire Protection Association Rating:  
(Rating level: 4-Extreme, 3-High, 2-Moderate, 1-Slight, 0-Minimum)

Health: 2                      Fire: 0                      Reactivity: 0

S.A.R.A. Title III Hazard Classification: (Yes/No)

Immediate (Acute) Health: Y	Delayed (Chronic) Health: Y
Sudden Release of pressure: N	Fire: N
Reactive: N	

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Mail inquiries to: 225 Schilling Blvd., Suite 300 Collierville, TN 38017  
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