Material Safety Data Sheet
May be used to comply with
OSHA's Hazard Communication Standard,
29 CFR 1910.1200. Standard must be consulted
for specific requirements.

U.S Department of Labor
Occupational Safety and Health Administration
(Non-Mandatory Form)
Form Approved
OMB No. 1218-0072

IDENTITY (As Used on Label and List)

A Complete Fruit Tree Spray **ID #4122**

Date: January 14, 2002

Section I

Bonide Products, Inc. (800) 424-9300
6301 Sutliff Road (315) 736-8231
Oriskany, NY 13424

Section II - Hazardous Ingredients/Identity

Hazardous Components (Specific Chemical Identity: Common Name(s)	OSHA PEL	ACGIH TLV	Other Limits	% (Optional)
Captan: N-(Trichloromethyl) thio-4-cyclohexene-1,2-dicarboximide CAS NO. 133-06-2		5mg/M3	STEL: 15/m3	
Malathion: O,O-Dimethyl Phosphorothioate of Diethyl Mercaptosuccinate CAS NO. 121-75-5		15mg/M3	10mg/M3	
Sevin, carbaryl: 1-Naphthyl-N-Methylcarbamate CAS NO. 63-25-2	5mg/M3			

Section III - Physical/Chemical Ingredients

BOILING POINT: ND
SPECIFIC GRAVITY (Water=1): 0.9432 mg/l
MELTING POINT: ND
BULK DENSITY (lbs/cu.ft.): NA
pH: ND
SOLUBILITY IN WATER: Emulsifies, active ingredients essentially insoluble.
APPEARANCE & ODOR: Light straw, colored free-flowing liquid with strong, aromatic color.

Section IV - Fire and Explosion Data

FLASHPOINT: 113°F (TCC)
LEL: ND UEL: ND
NFPA/HMIS Rating:
Health: 2 Fire: 2 Reactivity: 0
EXTINGUISHING MEDIA: Foam, Water Spray, CO2, Dry chemical
SPECIAL FIRE FIGHTING PROCEDURES: Vapors may be irritating to the respiratory tract and may cause breathing difficulty and pulmonary edema. Symptoms may be delayed several hours or longer depending on exposure. As in any fire, prevent any human exposure to fire, smoke, fumes or products of combustion. Evacuate nonessential personnel from the fire area. Fire fighters should wear full face, self-contained breathing apparatus and impervious clothing, such as gloves, hoods, suits and rubber boots. Use standard firefighting techniques in extinguishing fires involving this product. High pressure waterhoses may spread product from broken containers increasing contamination hazard. Use of contaminated buildings, areas and equipment must be prevented until they are decontaminated.
UNUSUAL FIRE & EXPLOSION HAZARDS: Closed containers may explode if exposed to excessive heat; keep containers cool by spraying with water if exposed to fire. Essential breakdown products are: dimethyl sulfide, sulfur dioxide, carbon monoxide, carbon dioxide, phosphorus pentoxide, nitrogen oxides, hydrogen chloride, carbonyl sulfide, carbon disulfide, thiophosgene, methyl isocyanate, and oxides of nitrogen, sulfur and carbon.

Section V - Reactivity Data

STABILITY: Stable HAZARDOUS POLYMERIZATION: Will not occur
CONDITIONS TO AVOID: High temperatures, open flame, alkaline materials
INCOMPATIBILITY: Alkaline materials and strong oxidizers
HAZARDOUS DECOMPOSITION PRODUCTS: Dimethyl sulfide, sulfur dioxide, carbon monoxide, carbon dioxide, phosphorus pentoxide, nitrogen oxides, hydrogen chloride, carbonyl sulfide, carbon disulfide, thiophosgene, methyl isocyanate, and oxides of nitrogen, sulfur and carbon.

Section VI - Health Hazard Information

PRIMARY ROUTES OF ENTRY: Skin, eye, inhalation, ingestion
SIGNS & SYMPTOMS OF EXPOSURE:
Acute: Two of the active ingredients, sevin and malathion, are cholinesterase inhibitors. May cause eye and/or skin irritation. Vapors may irritate eyes. Prolonged skin and/or eye contact may result in material being absorbed in harmful amounts. Single dose oral toxicity is moderate; however, ingestion of larger amounts may cause serious injury. Inhalation of excessive amounts may cause upper respiratory tract irritation. Symptoms include headaches, dizziness, incoordination, drowsiness and unconsciousness.
Chronic: Repeated exposures to cholinesterase inhibitors may, without warning, cause increased susceptibility to doses of any other cholinesterase inhibitor. Kidney and liver damage is possible from exposure to xylenes over long periods of time.

FIRST AID MEASURES: GENERAL:
If known exposure occurs or if poisoning is suspected, DO NOT WAIT FOR SYMPTOMS TO DEVELOP. Immediately start the procedures recommended below and simultaneously contact a Poison Control Center, a physician or the nearest hospital, inform the person contacted of the type and extent of exposure, describe the victim's symptoms, and follow the advice given.
SKIN: Wash the material off the skin with plenty of soap and water. If reddness, itching or a burning sensation develops, get medical attention. Wash any contaminated clothing and decontaminate footwear before reuse.
EYES: Immediately flush eyes with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Have eyes examined and treated by medical personnel as soon as possible.
INGESTION: Do not induce vomiting. Aspiration hazard exists if swallowed or if vomiting occurs; product can enter lungs and cause damage. Call a physician or Poison Control Center immediately.
INHALATION: Remove victim to fresh air. Contact medical personnel if a cough or other respiratory symptoms develop. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is labored, give oxygen. Consult medical personnel.

NOTES TO PHYSICIAN:
Contains an aromatic petroleum solvent, vomiting may cause aspiration pneumonia. Product also contains two active ingredients which are cholinesterase inhibitors affecting the central and peripheral nervous systems and producing cardiac and respiratory depression. Atropine sulfate in large doses is an antidote. Two to four mg intravenously or intramuscularly as soon as cyanosis is overcome. Repeat at 5 to 10 minute intervals until signs of atropinization appear. 2-PAM chloride is a pharmacological antidote.

DO NOT GIVE MORPHINE OR TRANQUILLIZERS.

At first sign of pulmonary edema, the patient should be given supplemental oxygen and treated symptomatically. Continued absorption of malathion may occur and relapse may occur after initial improvement.

VERY CLOSE SUPERVISION OF THE PATIENT IS INDICATED FOR AT LEAST 48 HOURS.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:
Any disease, medication or prior exposure, which reduces normal cholinesterase activity, may increase the susceptibility to the toxic effects of the active ingredients. Pre-existing skin, eye, liver, kidney, nervous system or respiratory disorders may be aggravated by excessive overexposure. Skin irritation may be aggravated in persons with existing skin lesions. Over-exposure may aggravate existing chronic cardiovascular or respiratory disease, leading to respiratory difficulty, pulmonary edema and cyanosis. Exposure to cholinesterase inhibitors should be restricted in persons with hemolytic anemias or pre-existing cholinesterase inhibition.

Section VII - Precautions for Safe Handling/Use

HANDLING PRECAUTIONS: Avoid excess heat, sparks, open flame or other ignition sources. Do not take internally. Avoid breathing vapors or spray mist. Avoid contact with skin, eyes & clothing. Wash thoroughly after handling. Do not contaminate water by disposal of equipment washwaters.
STORAGE: Store in a cool, dry area out of reach of children and animals. Avoid sources of ignition.
PROTECTIVE EQUIPMENT (OUTDOOR APPLICATIONS):
Impervious Gloves, Impervious Boots, Eye Goggles/Safety Glasses, Clean Clothing.
PROTECTIVE EQUIPMENT (CONFINED AREAS):
Sufficient Ventilation, Eyewash Station, Respirator (use NIOSH/MSHA approved), Impervious Arpon, Splash Goggles/Safety Glasses.

Section VIII - Environmental and Disposal Information

SPILL OR LEAK PROCEDURES: If material is spilled, extinguish all ignition sources. Be certain all personnel involved in spill cleanup follow good industrial hygiene practices. A small spill can be handled routinely. Use adequate ventilation and wear air-supplied respirator to prevent inhalation. Wear suitable protective clothing and eye protection to prevent skin and eye contact. Use the following procedure:

1) Contain spill; spread generous amount of absorbent material around spill; shovel or scoop absorbed material into labeled container for proper disposal.

2) Generously cover the spill area with a generous amount of dry household detergent. Using a stiff brush and small amounts of water, work the detergent into the remaining spilled material to form a slurry. Brush the slurry into cracks & crevices and allow to stand for 2 to 3 minutes. Be careful to completely avoid eye and skin contact. Do not spatter onto oneself or bystanders.

3) Spread absorbents onto the slurry and shovel mixture into the disposal drum.

4) Repeat steps 2) and 3), if necessary.

5) If practical, flush the area with water to a sewer serviced by a wastewater treatment facility.

6) Seal and label drum and dispose in a landfill permitted for hazardous waste.

7) Large spills should be handled according to a spill plan. Otherwise, in case of emergency, call day or night, CHEMTREC @ 1-800-424-9300.

WASTE DISPOSAL METHOD(S): Dispose according to EPA procedures as outlined in RCRA. Follow local and state requirements.

This product is toxic to fish, bees, aquatic and estuarine invertebrates, aquatic life stages of amphibians.

Section IX - Toxicological Information

Toxicity: In laboratory tests malathion has been shown to be slightly irritating to eyes and skin, not a skin sensitizer (guinea pigs), not carcinogenic, not teratogenic (rats and rabbits), not mutagenic and shows no reproductive effects (rabbits and rats). In laboratory tests for teratogenic effects captan, has been tested in the monkey, rabbit, dog, hamster, rat and mouse. Increases in fetal resportions were observed in New Zealand rabbits and hamsters. Increases in fetal abnormalities were observed in rats. Technical carbaryl has been shown to cause tumors in laboratory animals in lifetime feeding studies; when administered by various routes, at doses toxic to the maternal animals, has been shown to produce developmental toxicity in a number of species. Carbaryl produces no teratogenic effect in the absence of maternal toxicity.

Positive Teratogen/Mutagen/Carcinogen (NTP): No Potential Carcinogen (IARC/OSHA): No

Section X - Transportation Information

PROPER SHIPPING NAME: Consumer Commodity
II.D. No.: NA HAZARD CLASS: ORM-D SEC. 302: NA SEC. 304: NA SEC. 313: YES (captan & carbaryl)
SARA Title III-Section 313 Supplier Notification: This product contains the following toxic chemical(s) subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and 40 CFR 372:

Chemical: Light Aromatic Naphtha CAS No.: 64742-95-6

This information must be included on all MSDSs that are copied and distributed for this material:
Other Environmental Information: Section 313 Chemicals: Light Aromatic Naphtha contains the following reportable ingredients:

Trimehtylbenzene	CAS No. 25551-13-7
Xylene	CAS No. 1330-20-7
Ethylbenzene	CAS No. 100-41-4

CERCLA: RQ=10 lbs (captan), RQ=100 lbs (malathion), RQ=100 lbs (carbaryl)
CAA: RQ=1 lb (carbaryl)

Section XI - Regulatory Information

SARA Information: SARA TITLE III; SEC. 311/312 HAZARD CATEGORIES

Immediate (Acute) Health: Y
Sudden Release of Pressure: N Delayed (Chronic) Health: Y
Reactivity: N Fire: Y

Section XII - Other Information

CA Proposition 65: WARNING. This product contains a chemical known to the state of California to cause cancer (captan).

State Right-To-Know Laws: For Carbaryl: CT (Survey); FL (Toxic, RTK); IL (Toxic, Chem); LA (Haz, RQ=100 lbs, Spill RQ=100 lbs); MA (RTK, Neurotoxin, Spill RQ=10 lbs); NJ (RTK, ID# 0340, ENV); NY (Release: 100 lbs, air; RQ=1 lb, L/W); PA (RTK; HAZ; 1% Threshold; ENV); RI (RTK, Toxic).

KEEP OUT OF REACH OF CHILDREN

ABBREVIATION KEY

N/A: NOT AVAILABLE OR APPLICABLE	N/E: NOT ESTABLISHED	ND: Not Determined
TLV: THRESHOLD LIMIT VALUE	TWA: TIME WEIGHTED AVG./8 HOUR WORKDAY	
STEL: SHORT TERM EXPOSURE LIMIT	D.O.T.: DEPARTMENT OF TRANSPORTATION	

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