BUSAN® 30

INDUSTRIAL MICROBICIDE

ACTIVE INGREDIENT:
2-(Thiocyanomethylthio)benzothiazole 30%
INERT INGREDIENTS 70%

EPA REG. NO. 1448-55

KEEP OUT OF REACH OF CHILDREN
WARNING

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

WARNING: Causes eye damage and skin irritation. May be harmful if absorbed through the skin. Harmful if swallowed. Do not get in eyes, on skin, or on clothing. Wear goggles or face shield and rubber gloves when handling. Wash thoroughly after handling.

FIRST AID: *In case of eye contact,* flush eyes immediately with plenty of water for at least 15 minutes and get medical attention. *In case of skin contact,* wash with soap and plenty of cool water. Wash contaminated clothing before reuse. *If product is swallowed,* call a physician immediately. If patient is conscious, induce vomiting by stroking or tickling the patient's throat or far back on patient's tongue. Emetics such as 2 teaspoonsful (10 ml) of ipecac syrup or 1 teaspoonful (5 ml) of dry mustard in warm water to form a paste or even soap in warm water can be used. Repeat until vomit fluid is clear. Then have patient drink plenty of milk, gelatin solution, beaten egg whites, flour and water, or other nonoily demulcent. *Never induce vomiting or give anything by mouth to an unconscious person.*

Note to physician: Probable mucosal damage may contraindicate gastric lavage.

ENVIRONMENTAL HAZARDS: This pesticide is toxic to fish. Do not use in offshore or estuarine drilling operations. Do not discharge into lakes, streams, ponds, or public waters unless in accordance with a NPDES Permit. For guidance, contact the regional office of the Environmental Protection Agency.

STORAGE & DISPOSAL

PROHIBITIONS: Do not contaminate water, food, or feed by storage or disposal. Open dumping is prohibited. Do not reuse empty container.

PESTICIDE DISPOSAL: Pesticide, spray mixture, or rinsate that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticides or buried in a safe place away from water supplies.

CONTAINER DISPOSAL: Triple rinse (or equivalent) and dispose in an incinerator or landfill approved for pesticide containers, or bury in a safe place.

GENERAL: Consult Federal, State, or local disposal authorities for approved alternative procedures such as limited open burning.

DIRECTIONS FOR USE

IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING. Technical assistance in applying Busan 30 for microorganism control as described in the following is available upon request when a description of the problem is provided.

LEATHER: Busan 30 is used at treatment rates of 0.25 to 2 lb/1000 lb of white weight stock to prevent the bacterial or fungal degradation of salt-cured hides and skins and to prevent mold growth on chrome- or vegetable-tanned hides and skins. For treating hides cured with dry salt, Busan 30 should be sprinkled on the hides or should be mixed with the salt before it is applied to the hides. For treating tanned hides, Busan 30 should be dispersed in water and added to the pickling solution or to the tanning liquor at the start of the tanning operation.

PULP MILLS: To protect wood chips from fungal degradation during storage, Busan 30 is used at 0.5 to 2 lb/ton of oven-dry wood. It can be applied through a water shower or spray located in the pneumatic conveyor carrying chips from the chipper to the storage pile. For preservation of wet lap or sheet pulp, Busan 30 is used at 0.5 to 4 lb/ton of oven-dry fiber. It is applied to the surfaces of the dewatered pulp by means of sprays or applicator rolls.

PAPER MILLS: To control bacterial and fungal growth on paper and paperboard machines, Busan 30 is added to the white water or stock at 0.1 to 0.5 lb/ton of dry paper or paperboard produced. To make mold-resistant paper or paperboard, Busan 30 is used at 0.5 to 2 lb/ton of dry paper or paperboard per side treated. For coated paper or board, Busan 30 is incorporated in the coating mix prior to application of the coating. For uncoated paper or board, Busan 30 is dispersed in water, surface-sizing solution, or other solvent and applied to the surface to be protected by means of an applicator roll. For the preservation of agricultural mulch paper, Busan 30 is used at 1.5 to 5 lb/ton air-dry paper. It is applied to the surfaces of the mulch paper by tub-sizing methods or by means of sprays or applicator rolls before the paper is coated.

PARTICLE BOARD: Busan 30 is employed as a preservative for particle board, insulation board, and other wood-base fiber and particle panel materials. In this use, Busan 30 is mixed with the resin or binding agent at 0.1 to 1% based on the dry weight of the wood.

SAP STAIN CONTROL: Busan 30 is used to control sap stain and mold on freshly cut softwood and hardwood lumber, logs, poles, posts, and timbers. It is applied by dipping, spraying, or pressure impregnation of the wood with a dispersion containing 2 to 6 lb (2 to 6 pt) of Busan 30 per 100 gal of water. Treatment should be made within 24 hr of cutting or sawing, particularly in warm weather, and treated wood should not be exposed to heavy rains soon after treatment.

COOLING TOWERS: Busan 30 is used to protect cooling tower wood against soft or surface rot and internal or dry rot. It is applied by spraying or painting a dispersion containing 0.5 to 0.7% Busan 30 in water onto the clean wood surfaces. The amount applied should provide 0.6 to 0.8 lb Busan 30 per 1000 ft^2 of wood surface. Soft or surface rot can also be inhibited by periodic shock doses of Busan 30 to the recirculating cooling water at the tower basin or cold well. The dosage should provide 1.25 lb of Busan 30 per 1000 gal of water and the bleedoff should be stopped for 4 to 6 hr after treatment. The shock treatment should be repeated every four months.

COOLING WATER: Busan 30 is used to control algae, bacteria, and fungi in industrial recirculating cooling water systems. Before treatment is begun, the system should be cleaned thoroughly to remove old algal growth, microbiological slime, and other deposits. The system should then be drained, flushed, refilled with water, and treated with an initial dose of 0.6 to 3.7 fl oz Busan 30 per 1000 gal water in the system. Subsequent additions of 0.2 to 1.2 fl oz per 1000 gal should be made every 1 to 5 days, depending on amount of bleedoff and severity of microbiological fouling.

PAINT FILMS: Busan 30 is used to protect paint films against disfigurement and deterioration by fungi. For oil paints formulated with modified barium metaborate, zinc oxide, or combinations of these products, Busan 30 is added at 0.1 to 0.5% based on the total weight of the paint. In other oil paints, 0.3 to 1.0% Busan 30 is recommended. The Busan 30 can be dissolved in mineral spirits and added in the letdown or added directly to the finished paints. For water-thinned latex emulsion paints, Busan 30 is used at 0.1 to 1% based on the total weight of the paint. The microbicide can be premixed with wetting agent and added to the pigment slurry or premixed with wetting agent and added to the finished paint.

DRILLING FLUIDS: To inhibit bacterial and fungal degradation of the fluids or muds used in the drilling of wells, Busan 30 is incorporated in the drilling fluid at concentrations of 0.05 to 0.25% based on the total wet weight of the fluid.

PETROLEUM SECONDARY RECOVERY: Busan 30 is used to control sulfate-reducing bacteria, slime-forming bacteria and fungi in oil-field water, polymer, or micellar floods, water-disposal systems, and other oil-field water systems at dosage rates of 0.2 to 3.7 fl oz of Busan 30 per 1000 gal of water treated. Additions should be made continuously or intermittently by means of a metering pump at the free water knockouts, before or after injection pumps and injection well headers. **Continuous Feed Method:** When system is noticeably fouled, add 0.6 to 3.7 fl oz Busan 30 per 1000 gal of water continuously until desired degree of control is achieved. Then treat with 0.2 to 1.2 fl oz Busan 30 per 1000 gal of water continuously, or as needed to maintain control. **Intermittent or Slug Method:** When system is noticeably fouled, or to maintain control, add 0.6 to 3.7 fl oz Busan 30 per 1000 gal of water for 4 to 8 hr per day and 1 to 4 times per week, or as needed to maintain control.

CRUDE AND REFINED OILS: Busan 30 is an oil-soluble preservative for the control of bacteria and fungi that cause the degradation of crude oil and refined fuel oils during storage. It should be added to the oil as it is being transferred from the shipping container to the storage tank at the rate of 0.6 to 6.0 fl oz Busan 30 per 1000 gal of oil. Addition should be made batchwise where mixing occurs or continuously to the suction side of the transfer pump.

CUTTING FLUIDS: Busan 30 is used to inhibit bacterial and fungal degradation of water-based and water-soluble or emulsifiable cutting fluids and coolants used in metalworking operations. It should be added to the cutting fluid at a rate that will provide 2.5 to 250 parts per million Busan 30 (weight/weight) after final dilution with water. Busan 30 can be added after the dilution or can be added to the concentrate before dilution at a rate of 125 to 1250 parts per million in order to provide the required concentration in the diluted fluid.

CAULKING-SEALANTS & WALLCOVERING ADHESIVES: For details on the use of Busan 30 for the protection of these materials, refer to the bulletin *Busan 30—Preservative for Caulking-Sealants and Vinyl Acetate Wallcovering Adhesives.*

TEXTILES: For directions on the use of Busan 30 to protect textiles from fungal degradation, refer to the bulletin *Busan 30 for the Preservation of Textiles.*

MANUFACTURED BY

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Product Data

July 11, 1980

Bulletin No. T3EUR

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Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 1448-55

Busan® 30

(Patents issued or pending in the U.S.A. and other countries)

For the Preservation of Textiles

Busan 30 is an emulsifiable microbicide concentrate used to inhibit the growth of fungi that cause the degradation of textile materials.

Cellulose fibers such as cotton are readily attacked by fungi when exposed to conditions of high humidity and temperature. Wool, a proteinaceous fiber, is also subject to microbiological degradation but to a lesser extent than cotton.

The most significant problem associated with fungal attack of textiles is fabric decomposition, and the resulting strength loss commonly referred to as rotting. Although a wide variety of fungi demonstrate the ability to decompose cellulose, the *Chaetomium* sp. and *Memnoniella* sp. appear to be the most important.

Another problem of economic importance is the development of surface mold growth. These fungi subsist mainly on the non-cellulosic constituents of the fabric such as processing residues of oil, grease, or fabric finishes, but do not typically cause decomposition of the fabric. However, this type of growth causes discoloration and staining of the fabric, frequently making it unmarketable.

Busan 30 is a highly effective textile preservative that inhibits surface mold growth and fabric decomposition, not only in above-ground but also in ground-contact and underground applications. Busan 30 is a non-metallic organic compound that has a low order of toxicity to warm-blooded animals. The compound has very low solubility in water and thus is resistant to leaching. It has been proven in extended soil burial tests to be more effective than a number of widely known textile preservatives, including mercaptobenzothiazole and pentachlorophenyl laurate.

PRODUCT CHARACTERISTICS

Busan 30 is a liquid that emulsifies readily in water. It is packed in nonreturnable drums with bungs. Type 316 stainless steel, molded nylon, Penton, Teflon, polyethylene, and polypropylene are all satisfactory for handling Busan 30. The composition and some of the physical properties of Busan 30 are as follows:

Active ingredient:	
2-(Thiocyanomethylthio)benzothiazole	30%
Inert ingredients	70%
Density at 25 °C (77 °F)	1.05 g/ml
Approximate weight per U.S. gallon	8.7 lb
Approximate volume per kilogram	950 ml
Approximate volume per pound	430 ml
Flashpoint by Tagliabue closed-cup method	50 °C (122 °F)
pH of 100 ppm in distilled water	6-7

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Busan 30 is moderately toxic by ingestion in single doses and by single skin applications. The undiluted product is irritating to the skin and to the eyes. Workmen handling the product should use rubber gloves and goggles and should observe other precautions shown on the label.

METHODS OF APPLICATION

Busan 30 can be dispensed directly from shipping containers by use of chemical-metering pumps or suitable measuring containers. The product can be diluted with water to form an emulsion. When diluted with water it is recommended that the mixture be kept continuously agitated in order to maintain a homogeneous emulsion. Alternatively, addition of a suitable emulsifier, such as Atlox 3404F, may be employed to achieve a more stable dispersion in water.

To apply Busan 30, an emulsion of convenient concentration (generally 1-5%) should be prepared and impregnated into the fabric using conventional padding or sizing equipment. Depending on the degree of preservation required, the levels of treatment may vary between 0.5-2.0% based on fabric weight.

Busan 30 may also be used in conjunction with water repellents, resins, and other finishing agents. The concentration of Busan 30 required will depend upon the particular finishing agents used. It is typically most effective to combine Busan 30 with the finishing agents for the purpose of application.