CYTOX® 3615 Industrial Biocide

(FOR CONTROL OF BACTERIA, YEASTS, AND FUNGI IN PAPERMILL WATER SYSTEMS)

DANGER! KEEP OUT OF REACH OF CHILDREN
CAUSES EYE BURNS AND SKIN IRRITATION
HARMFUL OR FATAL IF ABSORBED THROUGH SKIN
HARMFUL IF SWALLOWED
COMBUSTIBLE

Do not get in eyes, on skin, on clothing.
Avoid breathing vapor or mist.
Use with adequate ventilation.
Keep container closed.
Wear rubber gloves and goggles or face shield when handling concentrate.
Wash thoroughly after handling.
Do not use, pour, spill or store near heat or open flame.

FIRST AID. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes; call a physician.

CAUTION: TREATED WATERS MAY BE HARMFUL TO FISH AND OTHER WILDLIFE

ACTIVE INGREDIENTS:	
3,5-Dimethyltetrahydro-1,3,5,2H-thiadiazine-2-thione	20%
2-Mercaptobenzothiazole	5%
INERT INGREDIENTS	75%

USDA Reg. No. 1730-

3827 R1 LN PRINTED IN U.S.A.

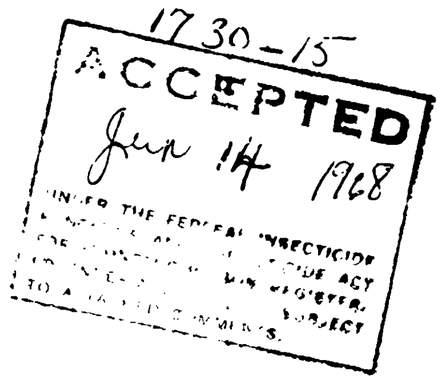
Net Contents: 54 Gallons (500 Pounds)

AMERICAN CYANAMID COMPANY • Industrial Chemicals Division • WAYNE, N J

DIRECTIONS FOR USE

CYTOX® 3615 is added to the papermill white-water system at a rate of 0.25 to 1.5 pounds of product per ton of paper. The exact dosage will depend upon operating conditions and extent of microbiologic contamination of the system. It is recommended that the total daily dosage be added as a shock dosage within a two- to four-hour period.

DRUM DISPOSAL: Do not reuse empty drum. Return to drum reconditioner or destroy by perforating or crushing and burying in a safe place.



CYTOX® 3615 INDUSTRIAL BIOCIDE

CYTOX 3615 is a formulation of two well-known and proven organo-sulfur biocides for use in papermill systems. This mixture is formulated with dispersants and penetrants, to promote rapid and complete kill. It is especially recommended for alkaline systems.

CHEMICAL AND PHYSICAL PROPERTIES

Active Ingredients:

3,5 dimethyltetrahydro-1,3,5,2H-thiadiazine-2-thior	20
2-mercaptobenzothiazole	5
Inert Ingredients including penetrants and dispersants	75%

Form	Clear, mobile liquid
Color	Straw-yellow
Odor	Mild
Flash point	101°F. Tag.open cup
Specific Gravity	1.1
Density	9.22 lb./gallon
Solubility	Readily soluble and dispersible in water at all concentrations
Boiling point	75°C.

The active ingredients in this product are approved for use as slime-control agents in the manufacture of food-grade paper and paperboard under the Food Additive Regulations (21 CFR 121.2505).

The product, administered as a 5% aqueous dispersion, has a single oral LD_{50} of 1.69 (1.29-2.23) g/kg to young male albino rats. The identical value was obtained for young female albino rats. The single dermal LD_{50} by continuous 24-hour contact of the product as received with the shaved skin of rabbits is 0.64 (0.46-0.90) g/kg. On the basis of these results, the product is considered to be slightly toxic by ingestion in single doses and moderately toxic by single skin applications. The undiluted product is a severe irritant to rabbit skin and is corrosive to rabbit eyes.

8-1408-500-3/68 Printed in U.S.A.

A group of 10 male and 10 female rats was exposed at room temperature to an aerosol containing 3.95 mg/l of the product for o hour. The animals showed signs of respiratory distress followed by prostration during the exposure period, but recovered rapidly when the exposure ended, and survived a subsequent 2-week observation period without incident.

In handling the undiluted CYTOX 3615 product, precautions should be observed to prevent prolonged or repeated skin contact and splashing into the eyes.

ANTIMICROBIAL ACTIVITY

Expressed as inhibitory concentration in parts per million.

Algal species	
Chlorella sp.	50
Bacterial species	
Aerobacter aerogenes	300
Bacillus cereus var. mycoides	150
Clostridium sp.	500
Desulfovibrio desulfuricans	100
Pseudomonas aeruginosa	150
Fungal species	
Aspergillus flavus	75
Aspergillus niger	250
Chaetomium globosum	50
Fusarium moniliforme	50
Penicillium citrinum	75
Penicillium expansum	75
Trichoderme viride	150

DIRECTIONS FOR USE

PAPER MILLS: CYTOX 3615 is added to the papermill white-water system at a rate of 0.25 to 1.5 pounds of product per ton of paper. The exact dosage will depend upon operating conditions and extent of microbiological contamination of the system. It is recommended that the total daily dosage be added as a shock dosage within a two- to four-h r period.

COOLING-WATER SYSTEMS: CYTOX 3615 should be fed continuously at a rate of 10 to 35 parts of product per million parts by weight of water to recirculating water systems for control of microbiological fouling. If much contamination is present, avoid clogging of screens.

SOLUTIONS AND EMULSIONS: For the preservation of coating formulations, starch and glue solutions, and other liquid products, the addition of 500 to 1000 parts per million of CYTOX 3615 Industrial Biocide based on total weight of the product is effective. The required dosage will vary according to the severity of microbiological contamination, pH of the solution, temperature and duration of storage, and chemical composition of the solution or emulsion. Do not use in products of this type that are intended for the manufacture of food-packaging materials.