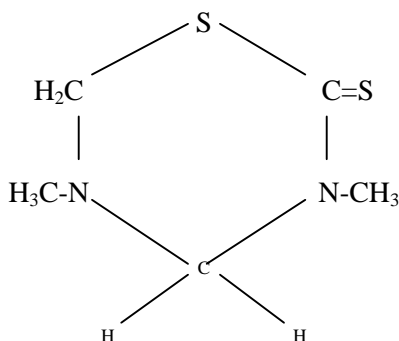


TECHNICAL DATA SHEET

N-521® P

Tetrahydro-3,5-dimethyl-2H,3,5-thiadiazine-2-thione (Dazomet)



N-521 P is an excellent fungicide and bactericide suggested for the control of microorganisms encountered in the manufacture and processing of leather, paint, glue casein, starch, paper and other materials.

TYPICAL PROPERTIES

Composition	99% Dazomet
Description.....	White crystalline solid
Odor.....	Nearly odorless
Melting Point, °C.....	102.2 - 105.5
% Volatiles.....	0.30 max.
Insolubles, wt. %.....	0.03
Iron, ppm.....	5 max.
Molecular Weight.....	162

STABILITY

It is believed the breakdown of **N-521 P** in water solutions is necessary for its biological action. The handling and storage characteristics of **N-521 P** are superior to those of its active decomposition products. Therefore, the instability of **N-521 P** in water solutions is desirable.

The presence of heavy metal salts accelerates the breakdown of **N-521 P** without affecting the biological activity. Chlorine, in excess of 10 ppm in water solutions, also accelerates the breakdown but in addition reduces the biological activity of the decomposition products.

ACTIVITY

Various data indicate that the activity of **N-521 P** is due not to the compound itself but its decomposition products. For example, dry **N-521 P** is completely inactive as a vapor fungicide whereas in the presence of water it produces complete inhibition of growth. Also the bacteria count of contaminated water drops very slowly when treated with **N-521 P** having a sustained effect over a long period of time whereas other bactericides depress the count immediately but only for a short time interval.

SOLUBILITY

<u>Solvent</u>	<u>gms N-521TM P/100 cc</u>
Carbon Tetrachloride	0.0
Ether	0.0
Water	0.2
Isopropanol	0.5
P-Xylene	1.1
Ethanol	3.0
Methanol	3.0
Ethylene Glycol	3.0
Ethylene Glycol Monomethyl Ether	5.0
Dioxane	8.0
Acetone	13.1
Trichloroethylene	30.0
Chloroform	30.0
Dimethyl Sulfoxide	30.0
Dimethyl Formamide	30.0

RECOMMENDED USES AND APPLICATIONS

N-521 P is recommended for use in paper and paperboard processing and other applications such as clay processing and processing of aqueous suspensions and dispersions.

N-521 P is effective in inhibiting the growth of fungi and bacteria which cause microbiological degradation and slime formation in slurries and high viscosity suspensions (starches, adhesives, clay slurries, glues, coatings, resin emulsions, etc.) during processing at use levels of 0.01% to 0.5% by weight. Actual use levels required for the preservation of specific formulations will vary depending upon the ingredients, temperature, storage conditions, and time and should be determined by actual test.

For preservation of aqueous systems **N-521 P** should be added at a point in the processing where there will be sufficient time and agitation for thorough dispersion.

Since the systems and formulations to be treated will vary. Verichem can provide laboratory assistance and technical consultation in determining the effectiveness of **N-521 P** in specific

applications and for determining actual dosages necessary to provide an effective control program.

PRECAUTIONS

N-521 P should not be used in formulations containing Mercurials or other components that are not compatible with Sulfur compounds.

Do not use in water intended for human consumption.

TOXICOLOGICAL PROPERTIES

Tests indicated some people may be allergic to **N-521 P** and should avoid direct contact. It is not, however, considered a primary skin irritant. Patch tests for sensitization on 100 males and 100 females (human) using 100 ppm gave no reactions. A 1% concentration of the Biocide on the same test group resulted in 19 sensitization reactions.

HANDLING PRECAUTIONS

In handling **N-521 P**, normal care should be taken to avoid inhaling the dust or having it come in prolonged contact with exposed portions of the body as in some cases it may be mildly irritating.

AVAILABILITY

N-521 P is available in commercial quantities as the Technical Grade 99% pure, white crystalline powder.

Material is shipped in 50 and 200 pound fiber drums with an attached polyethylene liner and in 50 pound multiwall bags.



For more information call: 1 800 778-5462 • FAX 1 412 331-7884
Or write VERICHEM, 3499 Grand Avenue, Pittsburgh, Pennsylvania 15225

CHEMICAL SOLUTIONS FOR MICROBIOLOGICAL PROBLEMS