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SB16988

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FAX MESSAGE  
NINE PAGES

MAY 11, 1995

NASCO

PLEASE FIND ATTACHED THE MSDS SHEETS FOR OUR #3000-1 ANB PH PAPER. PLEASE NOTE THAT THERE ARE 3 SOLUTIONS USED IN THIS MIXTURE. IT IS 95% DENATURED ALCOHOL AND 5% OF A MIXTURE OF PHENOL RED AND BROMOTHYMOL BLUE. SO THERE ARE THREE MSDS SHEETS. IF YOU NEED ANY FURTHER INFORMATION PLEASE FEEL FREE TO CONTACT US. THANK YOU.

SINCERELY,

  
EDITH WILSON

# Material Safety Data Sheet

From Genium's Reference Collection  
 Genium Publishing Corporation  
 1145 Catalyn Street  
 Schenectady, NY 12303-1836 USA  
 (518) 377-8855



No. 642

**BROMTHYMOL BLUE**

Issued: November 1987

## SECTION 1. MATERIAL IDENTIFICATION 24

Material Name: **BROMTHYMOL BLUE**

Description (Origin/Uses): Used as an acid-base indicator, showing a color change from yellow to blue over the range pH 6.0 to 7.6.

Other Designations:  $C_{27}H_{28}Br_2O_5S$ ; CAS No. 0076-59-5

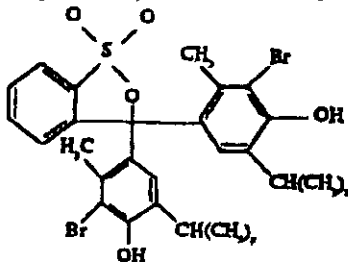
Manufacturer: Contact your supplier or distributor. Consult the latest edition of the *Chemicalweek Buyers' Guide* (Genium ref. 73) for a list of suppliers.

HMIS	Not Found
H	0
F	0
R	0
PPG*	S -
*See sect. 8	
	K -



## SECTION 2. INGREDIENTS AND HAZARDS

Bromthymol Blue, CAS No. 0076-59-5



ca 100

**EXPOSURE LIMITS**  
 Comments: Exposure limits for bromthymol blue have not been set by the ACGIH, NIOSH, or OSHA; neither have toxicity data for this material been evaluated by NIOSH.

## SECTION 3. PHYSICAL DATA

Water Solubility: Slight  
 Vapor Pressure: Negligible  
 Evaporation Rate: Not Found

Specific Gravity ( $H_2O = 1$ ): Not Found  
 Melting Point: It begins to decompose at 392°F (200°C).  
 Molecular Weight: 624 Grams/Mole  
 % Volatile by Volume: Negligible

Appearance and Odor: Off-white, cream-colored crystals or powder; no data on odor found.

## SECTION 4. FIRE AND EXPLOSION DATA

Flash Point and Method	Autoignition Temperature	Flammability Limits in Air	LOWER	UPPER
			Not Found*	Not Found*
Not Found*	Not Found*	% by Volume		

Extinguishing Media: \*Use water fog, dry chemical, "alcohol" foam, or carbon dioxide to fight fires involving bromthymol blue. Use a water spray to cool fire-exposed tanks or containers. Consult suppliers of foam before an emergency arises to determine their products' specific applicability to bromthymol blue fires.

Unusual Fire or Explosion Hazards: This combustible solid is a slight fire hazard when exposed to heat, sparks, and open flame.

Special Fire-fighting Procedures: Wear a self-contained breathing apparatus (SCBA) with a full facepiece operated in the pressure-demand or positive-pressure mode.

## SECTION 5. REACTIVITY DATA

Bromthymol blue is stable in closed containers at room temperature under normal storage and handling conditions. It does not undergo hazardous polymerization.

Chemical Incompatibilities: This material is incompatible with strong oxidizers.

Conditions to Avoid: Avoid direct exposure to heat, sparks, open flame, lighted tobacco products, and chemical incompatibles.

Hazardous Products of Decomposition: When heated to decomposition, bromthymol blue can emit toxic gases such as hydrogen bromide (HBr), sulfur oxides (SO), carbon monoxide, and/or carbon dioxide.

**SECTION 6. HEALTH HAZARD INFORMATION**

Bromthymol blue is not listed as a carcinogen by the NTP, IARC, or OSHA.

**Summary of Risks:** This material is relatively nonhazardous in routine industrial situations. It is not expected to present significant health risks to the workers who use it. It is toxic by ingestion, although this possibility is extremely unlikely if recommended personal hygiene procedures are followed.

**Medical Conditions Aggravated by Long-Term Exposure:** None reported.

**Target Organs:** None reported. **Primary Entry:** Inhalation, skin contact.

**Acute Effects:** None reported. **Chronic Effects:** None reported.

**FIRST AID**

**Eye Contact:** Immediately flush eyes, including under the eyelids, gently but thoroughly with plenty of running water for at least 15 minutes.

**Skin Contact:** Immediately wash the affected area with soap and water.

**Inhalation:** Remove victim to fresh air; restore and/or support his breathing as needed.

**Ingestion:** Never give anything by mouth to someone who is unconscious or convulsing. If the victim is responsive, give him one or two glasses of milk or water to drink. Do not induce vomiting unless directed to do so by a physician.

**GET MEDICAL HELP (IN PLANT, PARAMEDIC, COMMUNITY) FOR ALL EXPOSURES.** Seek prompt medical assistance for further treatment, observation, and support after first aid.

**SECTION 7. SPILL, LEAK AND DISPOSAL PROCEDURES**

**Spill/Leak:** Notify safety personnel of large bromthymol blue spills or leaks. Remove all sources of heat and ignition. Evacuate the spill area and limit access to necessary personnel only. Remove leaking containers to a safe place, if feasible. Scoop, shovel, or vacuum the spilled material into closable containers for disposal. Use caution to avoid generating dust.

**Waste Disposal:** Consider reclamation, recycling, or destruction rather than disposal in a landfill. Contact your supplier or a licensed contractor for detailed recommendations. Follow Federal, state, and local regulations.

**OSHA Designations**

**Air Contaminant (29 CFR 1910.1000 Subpart Z):** Not Listed

**EPA Designations (40 CFR 302.4)**

**RCRA Hazardous Waste:** Not Listed

**CERCLA Hazardous Substance:** Not Listed

**SECTION 8. SPECIAL PROTECTION INFORMATION**

**Goggles:** Always wear protective eyeglasses or chemical safety goggles. Follow the eye- and face-protection guidelines of 29 CFR 1910.133. **Gloves:** Wear impervious gloves to prevent prolonged skin contact. **Respirator:** In routine industrial conditions, special respirator protection may not be needed. For emergency or nonroutine exposures where excessive dust or vapor levels may exist, use a respirator approved by NIOSH. **Ventilation:** Install and operate ventilation systems that control airborne concentrations of this material at a level that does not interfere with the worker's safety, comfort, or productivity.

**Safety Stations:** Make eyewash stations, washing facilities, and safety showers available in areas of use and handling.

**Contaminated Equipment:** Contact lenses pose a special hazard; soft lenses may absorb irritants, and all lenses concentrate them.

Particles may cling to contact lenses and cause corneal injury. Do not wear contact lenses in any work area. Remove contaminated clothing and launder it before wearing it again; clean this material from shoes and equipment.

**Comments:** Practice good personal hygiene; always wash thoroughly after using this material. Keep it off of your clothing and equipment. Avoid transferring it from hands to mouth while eating, drinking, or smoking. Do not smoke, eat, or drink in any work area. Avoid prolonged skin contact with this material or inhalation of its dust.

**SECTION 9. SPECIAL PRECAUTIONS AND COMMENTS**

**Storage Segregation:** Store bromthymol blue in closed containers in a cool, dry, well-ventilated area away from heat, sparks, open flame, and strong oxidizers.

**Special Handling/Storage:** Protect containers from physical damage. Storage areas must meet OSHA requirements for combustible solids. All containers used in shipping or transferring operations must be electrically grounded to prevent static sparks. Build all storage facilities with an explosion-relief design to minimize damage from any explosion that may occur.

**Comments:** Do not smoke in any use or storage areas. Emptied containers retain product residues; handle them accordingly. Avoid prolonged contact with this material or generating its dust while working with it.

**Transportation Data (49 CFR 172.101-2):** Not Listed

**References:** 1, 5, 7, 73, 81-94, 103. CR/PJI

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Approvals *J. DeCaro*

Indust. Hygiene/Safety *JW*

Medical Review *M. H. ...*

**SECTION 6. HEALTH HAZARD INFORMATION**

Ethanol is not listed as a carcinogen by the NTP, IARC, or OSHA.  
**SUMMARY OF RISKS:** Ethanol vapor, even in low concentrations, is irritating to the eyes and the upper respiratory tract. In soiling the TLV-TWA of 1000 ppm (~1900 mg/m<sup>3</sup>), this irritant property of ethanol is more significant than the secondary toxic effects from absorbed or ingested ethanol. Irritation of the eyes and the upper respiratory tract should not occur below concentrations of 5000 ppm; 1000 ppm is close to the odor recognition threshold of ethanol. Inhalation of ethanol vapors can have effects similar to those characteristic of ingestion. These include an initial stimulatory effect followed by symptoms of mental excitement, drowsiness, impaired vision, ataxia, stupor, and drunkenness as the amount consumed increases. Large ingested doses can deleteriously affect the GI tract and the central nervous system. Contact with eyes causes an immediate burning and stinging sensation. Prolonged or repeated skin contact causes defaming and dermatitis. **TARGET ORGANS:** Eyes, skin, respiratory system, and hepatic system. **PRIMARY ENTRY:** Inhalation, ingestion, skin contact. **ACUTE EFFECTS:** Ataxia, incoordination, drowsiness, local irritating effects on the eyes, headache, intraocular tension, stupor, fatigue, and a great need for sleep. **CHRONIC EFFECTS:** None reported. **MEDICAL CONDITIONS AGGRAVATED BY LONG-TERM EXPOSURE** include liver damage and chronic irritation of the mucous membranes and the skin.  
**FIRST AID: EYE CONTACT:** Immediately flush eyes, including under the eyelids, gently but thoroughly with plenty of running water for at least 15 minutes. Get medical help. **SKIN CONTACT:** Wash thoroughly with plenty of water. Remove and launder contaminated clothing before wearing it again; clean material from shoes and equipment. Get medical help. **INHALATION:** Remove victim to fresh air; restore and/or support his breathing as needed. Get medical help. **INGESTION:** Call a poison control center. Never give anything by mouth to someone who is unconscious or convulsing. Get medical help.  
 \* GET MEDICAL ASSISTANCE - IN PLANT, PARAMEDIC, COMMUNITY. Get prompt medical assistance for further treatment, observation, and support after first aid.

**COMMENTS:** Individual tolerance, amount of rest, medication, and daily eating habits are just some of the contributing factors that determine a worker's response to ethanol exposure. Provide physical examinations emphasizing the lungs, skin, the respiratory system and hepatic system to workers who are exposed to ethanol.

**SECTION 7. SPILL, LEAK, AND DISPOSAL PROCEDURES**

**SPILL/LEAK:** Notify safety personnel of spills or leaks of ethanol. Provide maximum explosion-proof ventilation. Eliminate all possible sources of heat or ignition; if feasible, remove any leaking container to an open area. Cleanup personnel need protection against inhalation and skin contact. Use nonsparking tools during all cleanup procedures. Contain spill and pick up liquid for recovery or disposal when feasible. Absorb small spills with dry sand, vermiculite, or other suitable material. Consider diluting a spill with water to raise the material's flash point. **DISPOSAL:** Consider reclamation, recycling, or destruction rather than disposal in a landfill. Filtration and distillation procedures may help reclamation operations. Contact your supplier or a licensed waste-disposal contractor for detailed recommendations. Follow Federal, state, and local regulations.

Ethanol is not designated as a hazardous substance by the EPA (40 CFR 116.4).  
 Ethanol is reported in the 1983 EPA TSCA Inventory.  
 EPA Hazardous Waste No. (40 CFR 261.21, Ignitability): D001  
 EPA Reportable Quantity (40 CFR 117.3): Not Listed  
 Aquatic Toxicity TLm 96: Over 1000 ppm

**SECTION 8. SPECIAL PROTECTION INFORMATION**

**GOGGLES:** Always wear protective eyeglasses or chemical safety goggles. Follow the eye and face protection guidelines of 29 CFR 1910.133. **GLOVES:** Wear impervious gloves. **RESPIRATOR:** Follow the respirator guidelines in 29 CFR 1910.134. IDLH or unknown concentrations require an SCBA, full facepiece, and pressure-demand/positive-pressure modes. **WARNING:** Air-purifying respirators will not protect workers from oxygen-deficient atmospheres. **OTHER EQUIPMENT:** Wear rubber boots, aprons, and other appropriate personal protective equipment suitable to the work situation. **VENTILATION:** Use and operate both general and local exhaust ventilation systems that are of sufficient power to maintain airborne levels of ethanol below the legislated OSHA PEL cited in section 2. Local exhaust hoods should have a minimum face velocity of 100 fpm. All ventilation systems should be nonsparking and of maximum explosion-proof design. **SAFETY STATIONS:** Make eyewash stations, washing facilities, and safety showers available in areas of use and handling. **SAFETY:** Contact lenses pose a special hazard; soft lenses may absorb irritants, and all lenses concentrate them. **SPECIAL CONSIDERATIONS:** All engineering systems and operations should be made explosion proof by eliminating mechanical or electrical sparks, open flame, and uncovered or unprotected heating elements. **COMMENTS:** Practice good personal hygiene. Keep materials off of your clothes and equipment. Avoid transferral of material from hands to mouth while eating, drinking, or smoking. Do not smoke anywhere near the work areas where ethanol is used!

**SECTION 9. SPECIAL PRECAUTIONS AND COMMENTS**

**STORAGE/SEGREGATION:** Separate ethanol in tightly closed containers in a cool, dry, well-ventilated area away from chemically incompatible materials. Do not expose it to direct sunlight or sources of heat or ignition. **SPECIAL HANDLING/STORAGE:** Electrically ground and bond all containers involved in storage or transferring operations to prevent static sparks. Use nonsparking tools. Protect containers from physical damage. Storage and use conditions must be suitable for an OSHA class IB flammable liquid. **ENGINEERING CONTROLS IN THE WORKPLACE:** Use ethanol only with adequate ventilation. **COMMENTS:** Avoid repeated or prolonged skin contact or inhalation of vapors. Use only with adequate ventilation and eliminate all sources of hazardous or unintended ignition. Exposure to ethanol enhances toxicity hazards of other materials such as chlorinated hydrocarbon solvents or drugs.

**TRANSPORTATION DATA (per 49 CFR 172.101-2):**

DOT Hazard Class: Flammable Liquid      DOT ID No. UN1170      IMO Class: 3.2  
 IMO Label: Flammable Liquid      DOT Shipping Name: Ethyl Alcohol      DOT Label: Flammable Liquid

References: 1, 2, 4-12, 16, 20, 23-26, 34, 37, 38, 42, 47, 73, 87-94. PI

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 Medical Review *M. H. R. 11/87*

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DATE: 05/11/95  
CUST#: 6-049-31420

M A T E R I A L S A F E T Y D A T A S H E E T PAGE

SECTION 1. - - - - - CHEMICAL IDENTIFICATION- - - - -

PRODUCT #: P4633 NAME: PHENOL RED FREE ACID  
SECTION 2. - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - -

CAS #: 143-74-8  
MF: C19H14O5S1

SYNONYMS

FENOLIPUNA \* PHENOL, 4,4'-(3H-2,1-BENZOXATHIOL-3-YLIDENE)BIS-, S,S-DIOXIDE (9CI) \* PHENOL RED \* PHENOLSULFONEPHTHALEIN \* PHENOLSULFONPHTHALEIN \* PHENOLSULPHONPHTHALEIN \* PSP \* PSP (INDICATOR) \* SULFONPHTHAL \* SULPENTAL \* SULPHONTHAL \*

SECTION 3. - - - - - HAZARDS IDENTIFICATION - - - - -

LABEL PRECAUTIONARY STATEMENTS

IRRITANT  
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.  
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.  
WEAR SUITABLE PROTECTIVE CLOTHING.

SECTION 4. - - - - - FIRST-AID MEASURES- - - - -

IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES.  
IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH SOAP AND COPIOUS AMOUNTS OF WATER.  
IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.  
IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN.  
WASH CONTAMINATED CLOTHING BEFORE REUSE.

SECTION 5. - - - - - FIRE FIGHTING MEASURES - - - - -

EXTINGUISHING MEDIA

WATER SPRAY.  
CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.

SPECIAL FIREFIGHTING PROCEDURES

WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.

UNUSUAL FIRE AND EXPLOSIONS HAZARDS

EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

CONTINUED ON NEXT PAGE

FAX: USA/CANADA 1-800-325-5052

OUTSIDE THE USA/CANADA CALL COLLECT

FAX: 314-771-5757

M A T E R I A L   S A F E T Y   D A T A   S H E E T                      P A G E   1

DATE: 05/11/95

CUST#: 6-049-31420

PRODUCT #: P4633                      NAME: PHENOL RED FREE ACID

SECTION 6. - - - - - ACCIDENTAL RELEASE MEASURES - - - - -

WEAR RESPIRATOR, CHEMICAL SAFETY GOGGLES, RUBBER BOOTS AND HEAVY RUBBER GLOVES.

SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL.

AVOID RAISING DUST.

VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

SECTION 7. - - - - - HANDLING AND STORAGE - - - - -

REFER TO SECTION 8.

SECTION 8. - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION - - - - -

CHEMICAL SAFETY GOGGLES.

COMPATIBLE CHEMICAL-RESISTANT GLOVES.

NIOSH/MSHA-APPROVED RESPIRATOR.

SAFETY SHOWER AND EYE BATH.

MECHANICAL EXHAUST REQUIRED.

DO NOT BREATHE DUST.

AVOID CONTACT WITH EYES, SKIN AND CLOTHING.

WASH THOROUGHLY AFTER HANDLING.

IRRITANT.

KEEP TIGHTLY CLOSED.

STORE IN A COOL DRY PLACE.

SECTION 9. - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - -

APPEARANCE AND ODOR

RED TO DARK-RED POWDER

SECTION 10. - - - - - STABILITY AND REACTIVITY - - - - -

STRONG OXIDIZING AGENTS

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS

TOXIC FUMES OF:

CARBON MONOXIDE, CARBON DIOXIDE

SULFUR OXIDES

CONTINUED ON NEXT PAGE

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M A T E R I A L S A F E T Y D A T A S H E E T PAGE

DATE: 05/11/95

PRODUCT #: P4633

NAME: PHENOL RED FREE ACID

CUST#: 6-049-31420

SECTION 11. - - - - - TOXICOLOGICAL INFORMATION - - - - -

ACUTE EFFECTS

MAY BE HARMFUL BY INHALATION, INGESTION, OR SKIN ABSORPTION.  
CAUSES EYE AND SKIN IRRITATION.

MATERIAL IS IRRITATING TO MUCOUS MEMBRANES AND UPPER  
RESPIRATORY TRACT.

TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND  
TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

RTECS NO: SJ7490000

PHENOL, 4,4'-(3H-2,1-BENZOXATHIOL-3-YLIDENE)DI-, S,S-DIOXIDE  
TOXICITY DATA

ORL-RAT LD50: >600 MG/KG

CTOXAD 4(2),185,71

SCU-RAT LD50: >600 MG/KG

CTOXAO 4(2),185,71

IVN-RAT LD50: 752 MG/KG

NIIRDN -,930,90

IVN-MUS LD50: 1368 MG/KG

NIIRDN -,930,90

ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES  
(RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR  
COMPLETE INFORMATION.

SECTION 12. - - - - - ECOLOGICAL INFORMATION - - - - -

DATA NOT YET AVAILABLE.

SECTION 13. - - - - - DISPOSAL CONSIDERATIONS - - - - -

DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A  
CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER.  
OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. - - - - - TRANSPORT INFORMATION - - - - -

CONTACT SIGMA CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. - - - - - REGULATORY INFORMATION - - - - -

CONTINUED ON NEXT PAGE

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DATE: 05/11/95

PRODUCT #: P4633

NAME: PHENOL RED FREE ACID

CUST#: 6-049-31420

REVIEWS, STANDARDS, AND REGULATIONS

NOHS 1974: HZD 82224; NIS 16; TNF 1719; NOS 13; TNE 5387

NOES 1983: HZD 82224; NIS 18; TNF 1763; NOS 23; TNE 23057; TFE 12330

EPA GENETOX PROGRAM 1988, INCONCLUSIVE: B SUBTILIS REC ASSAY

EPA TSCA CHEMICAL INVENTORY, JUNE 1993

SECTION 16. - - - - - OTHER INFORMATION - - - - -

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