

# PHOTOGRAPHERS' FORMULARY

## FORMULARY EDWARD WESTON'S AMIDOL PAPER DEVELOPER

Use dilutions up to 1:10 (1 ml of working solution and 10 ml of water; 100 ml of working solution and 1000 ml of water, etc.). Diluted Weston's will require longer development times -- possibly 10 minutes. Be sure your safety light does not fog the paper.

Another control in development is the amount of potassium bromide, that can be added to the developer. The optimum level can be found by the following procedure.

Mix the Stock Solution according to the instruction but omit the 10% potassium bromide solution. Add 5 ml of 10% potassium bromide per liter of working solution. Develop an unexposed strip of paper for 5 minutes with the safety light off. If the paper fogs, add another 5 ml portion of the potassium bromide solution and re-test the solution. When no fog appears, there is sufficient restrainer for the paper being used. Too much potassium bromide in the developer will decrease paper speed and increase the contrast.

Directions for using Edward Weston's Amidol paper Developer: kit sizes, 1 liter (Catalog number 02-0010); 2 liter (Catalog number 02-0020); and 4 liter (Catalog number 02-0021).

Amidol, as a developer, produces rich, strong black tones which are slightly cool. Prints developed in amidol have very good tone separation. Formulary Weston's Amidol, which is almost identical to Edward Weston's original formula, produces rich prints with a strong impact. The working solution can be diluted to obtain softer results without greatly affecting the color. The formula contains citric acid which inhibits print stains by maintaining a low pH.

### CHEMICAL SAFETY

All chemicals are dangerous and must be treated with respect. Please read the chemical warnings on each package.

Amidol is a poison and must be used with caution. It is probably absorbed through the skin. The use of tongs or disposable rubber gloves is recommended when working with amidol solutions.

Amidol stains: Staining is due to the air-oxidation of the free base of amidol that is present in neutral or alkaline solution. Soap, for example, is sufficiently alkaline to cause the amidol hydrochloride to be converted to the free base. In cleaning a darkroom after amidol use, first wash with water (amidol is very water-soluble) and then wash with a 2% solution of hydrochloric acid. The acid ensures that the amidol remains in the salt form. Once amidol has been oxidized and has stained, there is not much that can be done.

If an amidol solution should be spilled on the skin, wash the area first with water, then with a 2% solution of hydrochloric acid, and finally with soap and water.

The user assumes all risks upon accepting these chemicals. IF FOR ANY REASON YOU DO NOT WISH TO ASSUME ALL RISKS, PLEASE RETURN THE CHEMICALS FOR A FULL REFUND.



# PHOTOGRAPHERS' FORMULARY INC.

PO Box 950 • Condon MT 59826 • 406-754-2891 • FAX 406-754-2896  
E-Mail: [formulary@montana.com](mailto:formulary@montana.com)

10-0040

SUBSTANCE IDENTIFICATION

CAS NUMBER: 137-09-7  
RTECS NUMBER: SK7600000

SUBSTANCE: 2,4-DIAMINOPHENOL DIHYDROCHLORIDE

TRADE NAMES/SYNONYMS:

PHENOL, 2,4-DIAMINO-, DIHYDROCHLORIDE; DIAMIDOPHENOL HYDROCHLORIDE;  
2,4-DIAMINOPHENOL HYDROCHLORIDE; AMIDOL; C6H10CL2N2O; OHS28525

CHEMICAL FAMILY:

HALOGEN COMPOUND, AROMATIC

MOLECULAR FORMULA: (H2-N)2-C6-H3-O-H. 2(H-CL)

MOLECULAR WEIGHT: 197.06

CERCLA RATINGS (SCALE 0-3): HEALTH=3 FIRE=1 REACTIVITY=0 PERSISTENCE=2

NFPA RATINGS (SCALE 0-4): HEALTH=3 FIRE=1 REACTIVITY=0

COMPONENTS AND CONTAMINANTS

COMPONENT: 2,4-DIAMINOPHENOL DIHYDROCHLORIDE PERCENT: 100.0  
CAS# 137-09-7

OTHER CONTAMINANTS: NONE.

EXPOSURE LIMITS:

NO OCCUPATIONAL EXPOSURE LIMITS ESTABLISHED BY OSHA, ACGIH, OR NIOSH.

PHYSICAL DATA

DESCRIPTION: COLORLESS TO GRAYISH-WHITE TO GREEN CRYSTALLINE SOLID.

MELTING POINT: 446-464 F (230-240 C) (DECOMPOSES)

SPECIFIC GRAVITY: NOT AVAILABLE VOLATILITY: 0% SOLUBILITY IN WATER: >10%

SOLVENT SOLUBILITY: SLIGHTLY SOLUBLE IN ALCOHOL, ETHER, AND ORGANIC SOLVENTS.

FIRE AND EXPLOSION DATA

FIRE AND EXPLOSION HAZARD:

SLIGHT FIRE HAZARD WHEN EXPOSED TO HEAT OR FLAME.

EVIDENCE OF CHEMICAL REMAINS (AT LEAST 15-20 MINUTES). IN CASE OF CHEMICAL BURNS, COVER AREA WITH STERILE, DRY DRESSING, BANDAGE SECURELY, BUT NOT TOO TIGHTLY. GET MEDICAL ATTENTION IMMEDIATELY.

**EYE CONTACT:****2,4-DIAMINOPHENOL DIHYDROCHLORIDE:**

IRRITANT.

ACUTE EXPOSURE- MAY CAUSE IRRITATION, REDNESS, PAIN, OR POSSIBLY BURNS.

DIRECT EXPOSURE CAUSED DARK BROWN STAINING OF THE CORNEAL STROMA, PERMANENT CORNEAL OPACIFICATION, AND VASCULARIZATION TO DENUDED RABBIT EYES.

CHRONIC EXPOSURE- EFFECTS DEPEND ON CONCENTRATION AND DURATION OF EXPOSURE. REPEATED OR PROLONGED CONTACT MAY RESULT IN CONJUNCTIVITIS OR EFFECTS SIMILAR TO ACUTE EXPOSURE.

FIRST AID- WASH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER, OCCASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL REMAINS (AT LEAST 15-20 MINUTES). CONTINUE IRRIGATING WITH NORMAL SALINE UNTIL THE PH HAS RETURNED TO NORMAL (30-60 MINUTES). COVER WITH STERILE BANDAGES. GET MEDICAL ATTENTION IMMEDIATELY.

**INGESTION:****2,4-DIAMINOPHENOL DIHYDROCHLORIDE:**

ACUTE EXPOSURE- MAY CAUSE ABDOMINAL SPASMS, NAUSEA, AND BURNS TO THE MOUTH AND STOMACH.

CHRONIC EXPOSURE- ADMINISTRATION OF 2,4-DIAMINOPHENOL DIHYDROCHLORIDE TO RATS WAS ASSOCIATED WITH INCREASED SEVERITY OF NEPHROPATHY IN MALES AND FEMALES, INCREASED INCIDENCE OF NEPHROPATHY IN FEMALES, AND FOCAL RENAL TUBULE HYPERPLASIA IN MALES AND FEMALES. IN MICE, CHEMICAL EXPOSURE WAS ASSOCIATED WITH RENAL TUBULAR NECROSIS AND REGENERATION IN MALES AND FEMALES AND ACANTHOSIS OF THE FORESTOMACH IN MALES.

FIRST AID- DO NOT USE GASTRIC LAVAGE OR EMESIS. DILUTE IMMEDIATELY BY DRINKING LARGE QUANTITIES OF WATER OR MILK. IF VOMITING PERSISTS, ADMINISTER FLUIDS REPEATEDLY. MAINTAIN AIRWAY AND TREAT SHOCK. IF VOMITING OCCURS, KEEP HEAD BELOW HIPS TO HELP PREVENT ASPIRATION. GET MEDICAL ATTENTION IMMEDIATELY.

**ANTIDOTE:**

NO SPECIFIC ANTIDOTE. TREAT SYMPTOMATICALLY AND SUPPORTIVELY.

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**REACTIVITY****REACTIVITY:**

STABLE UNDER NORMAL TEMPERATURES AND PRESSURES.

**INCOMPATIBILITIES:****2,4-DIAMINOPHENOL DIHYDROCHLORIDE:**

BASES (STRONG): INCOMPATIBLE.

OXIDIZERS (STRONG): FIRE AND EXPLOSION HAZARD.

**DECOMPOSITION:**

THERMAL DECOMPOSITION PRODUCTS MAY INCLUDE TOXIC AND CORROSIVE FUMES OF CHLORIDES AND TOXIC OXIDES OF NITROGEN.

**POLYMERIZATION:**

HAZARDOUS POLYMERIZATION HAS NOT BEEN REPORTED TO OCCUR UNDER NORMAL TEMPERATURES AND PRESSURES.

FOR FIREFIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS:

ANY SELF-CONTAINED BREATHING APPARATUS THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.

ANY SUPPLIED-AIR RESPIRATOR THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE IN COMBINATION WITH AN AUXILIARY SELF-CONTAINED BREATHING APPARATUS OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.

CLOTHING:

EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE (IMPERVIOUS) CLOTHING AND EQUIPMENT TO PREVENT REPEATED OR PROLONGED SKIN CONTACT WITH THIS SUBSTANCE.

GLOVES:

EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE GLOVES TO PREVENT CONTACT WITH THIS SUBSTANCE.

EYE PROTECTION:

EMPLOYEE MUST WEAR SPLASH-PROOF OR DUST-RESISTANT SAFETY GOGGLES TO PREVENT EYE CONTACT WITH THIS SUBSTANCE.

EMERGENCY EYE WASH: WHERE THERE IS ANY POSSIBILITY THAT AN EMPLOYEE'S EYES MAY BE EXPOSED TO THIS SUBSTANCE, THE EMPLOYER SHOULD PROVIDE AN EYE WASH FOUNTAIN WITHIN THE IMMEDIATE WORK AREA FOR EMERGENCY USE.

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CREATION DATE: 01/16/93 REVISION DATE: 03/24/93

10-0410 Recd 3-18-94

REPORT NUMBER: 971  
MSDS NO: HX17029  
EFFECTIVE DATE: 03/14/94

VAN WATERS & ROGERS INC.  
MATERIAL SAFETY DATA SHEET

PAGE: 001  
VERSION: 002

PRODUCT: CITRIC ACID, ANHYDROUS

ORDER NO:  
PROD NO :

VAN WATERS & ROGERS INC. , SUBSIDIARY OF UNIVAR (206)889-3400  
6100 CARILLON POINT , KIRKLAND , WA 98033

----- EMERGENCY ASSISTANCE -----

FOR EMERGENCY ASSISTANCE INVOLVING CHEMICALS CALL - CHEMTREC  
(800)424-9300

----- FOR PRODUCT AND SALES INFORMATION -----

CONTACT YOUR LOCAL VAN WATERS & ROGERS BRANCH OFFICE AT  
VWAR SPOKANE 509-534-0405 SPOKANE , WA

I. PRODUCT IDENTIFICATION:

PRODUCT NAME.....: Citric Acid, Anhydrous  
PRODUCT CODE.....: 0701, 0702, 0703, 0704  
CHEMICAL FAMILY.....: Organic Acid  
CHEMICAL NAME.....: 2-Hydroxy-1,2,3 Propanetricarboxylic Acid  
CAS NUMBER.....: 77-92-9  
FORMULA.....: C6H8O7  
MSDS #: HX17029

II. HAZARDOUS INGREDIENTS:

INGREDIENT NAME /CAS NUMBER	EXPOSURE LIMITS	CONCENTRATION (%)
2-Hydroxy-1,2,3 Propanetricarboxylic Acid 77-92-9	OSHA : 5.000 mg/m3 (respirable dust) ACGIH: 5.000 mg/m3 (respirable dust)	100.000 %

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VAN WATERS & ROGERS INC.  
MATERIAL SAFETY DATA SHEET

PAGE: 003  
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PRODUCT: CITRIC ACID, ANHYDROUS

ORDER NO:  
PROD NO :

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#### MEDICAL CONDITIONS

AGGRAVATED BY EXPOSURE.....: Persons with pre-existing eye or skin disorders may be more susceptible to the effects of this product.

EXPOSURE LIMITS.....: Although no exposure limit has been established for this product, the OSHA-PEL for nuisance dust of 15 mg/m<sup>3</sup>-total dust, 5 mg/m<sup>3</sup>-respirable dust is recommended. In addition, the ACGIH-TLV for nuisance dust of 10 mg/m<sup>3</sup> is recommended.

#### VI. EMERGENCY AND FIRST AID PROCEDURES:

FIRST AID FOR EYES.....: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician immediately.

FIRST AID FOR SKIN.....: In case of contact, remove contaminated clothing, and flush skin with plenty of water for at least 15 minutes. Wash clothing before reuse. Call a physician.

#### VI. FIRST AID PROCEDURES (Continued)

FIRST AID FOR INHALATION: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

FIRST AID FOR INGESTION.: If swallowed, call a physician.

#### VII. EMPLOYEE PROTECTION RECOMMENDATIONS:

EYE PROTECTION REQUIREMENTS.....: Chemical safety goggles.

SKIN PROTECTION REQUIREMENTS.....: Rubber or vinyl gloves and long sleeved shirts and pants to minimize skin contact. Employees should wash their hands and face before eating, drinking or using tobacco products.

RESPIRATOR REQUIREMENTS.....: Work ambient concentrations should be monitored and if the recommended exposure limit is exceeded, a NIOSH/MSHA approved dust respirator should be worn.

VENTILATION REQUIREMENTS.....: Use local ventilation if dusting is a problem, to maintain air levels below the recommended exposure limit.

ADDITIONAL PROTECTIVE MEASURES.....: Emergency showers and eye wash stations should be made available. Educate and train employees in the safe use and

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VAN WATERS & ROGERS INC.  
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PAGE: 005  
VERSION: 000

PRODUCT: CITRIC ACID, ANHYDROUS

ORDER NO:  
PROD NO :

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DOT (HM-181) (DOMESTIC SURFACE)  
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HAZARD CLASS OR DIVISION .....: Non-Regulated

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IMO / IMDG CODE (OCEAN)  
-----

HAZARD CLASS DIVISION NUMBER...: Non-Regulated

-----  
ICAO / IATA (AIR)  
-----

HAZARD CLASS DIVISION NUMBER...: Non-Regulated

XII. ANIMAL TOXICITY DATA:

NO ANIMAL TOXICITY INFORMATION AVAILABLE

XIII. FEDERAL REGULATORY INFORMATION:

OSHA STATUS.....: This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA STATUS.....: On TSCA Inventory

CERCLA REPORTABLE QUANTITY...: None

SARA REPORTABLE QUANTITY....: Exempt from SARA Title III reporting; contains no section 313 toxic chemical. It may contain up to the FCC limits for arsenic (1 ppm), lead (0.5 ppm), and heavy metals (5 ppm, as lead).

RCRA STATUS.....: If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

FDA STATUS.....: Citric Acid meets the specifications given in the Third Edition of the Food Chemicals Codex and is in chemical compliance with 21 CFR





PORT NUMBER: 703  
OS NO: GC003068  
EFFECTIVE DATE: 11/23/92

VAN WATERS & ROGERS INC.  
MATERIAL SAFETY DATA SHEET

PAGE: 001  
VERSION: 002

PRODUCT: SODIUM SULFITE

ORDER NO: 141120  
PROD NO : 503217

PHOTOGRAPHERS FORMULARY  
C/O UNITED FRT. TERMINAL

KALISPELL ,MT 59806

VAN WATERS & ROGERS INC. , SUBSIDIARY OF UNIVAR (206)889-3400  
100 CARILLON POINT , KIRKLAND , WA 98033

----- EMERGENCY ASSISTANCE -----

FOR EMERGENCY ASSISTANCE INVOLVING CHEMICALS CALL - CHEMTREC  
(800)424-9300

----- FOR PRODUCT AND SALES INFORMATION -----

CONTACT YOUR LOCAL VAN WATERS & ROGERS BRANCH OFFICE AT  
VW&R SPOKANE 509-534-0405 SPOKANE , WA

PRODUCT NAME:  
SODIUM SULFITE

OS #: GC003068

GENERAL INFORMATION

TRADE NAME (COMMON NAME): SODIUM SULFITE, SULFTECH(TM) grade Sodium Sulfite  
A.S. No. 7757-83-7

CHEMICAL NAME AND/OR SYNONYM: Sodium Sulfite

FORMULA: Na<sub>2</sub>SO<sub>3</sub>

MOLECULAR WEIGHT: 126.04

ADDRESS: GENERAL CHEMICAL CORPORATION  
90 East Halsey Road  
Parsippany, NJ 07054-0389

TELEPHONE CONTACT: Manager of Product Safety

TELEPHONE NUMBER: (201) 515-1840

CURRENT ISSUE DATE: July, 1990

FIRST AID MEASURES

EMERGENCY PHONE NUMBER: (800) 631-8050

EYES: Immediately flush with plenty of water, for at least 15 minutes. Get  
medical attention.

SKIN: Promptly wash with plenty of soap and water.

INHALATION: Remove to fresh air. If symptoms persist, get medical attention.

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OS NO: GC003068  
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VAN WATERS & ROGERS INC.  
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PRODUCT: SODIUM SULFITE

ORDER NO: 141120  
PROD NO : 503217

Promptly shovel up dry chemical into an empty container, and cover.  
Store as above. Cautiously spray residue with plenty of water. (See  
Section I for disposal methods.)

SPECIAL: PRECAUTIONS/PROCEDURES/LABEL INSTRUCTIONS: SIGNAL WORD - WARNING!  
Contact with acids releases irritating and potentially fatal sulfur  
dioxide gas. See drum-handling instructions on label. When dissolving,  
add water cautiously and with stirring.

#### PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY PROTECTION: If dusty or misty conditions prevail, use dust or  
mist respirator approved by NIOSH. If sulfur dioxide should be released  
(see Section G), use respiratory protection approved by NIOSH for this  
gas.--Reference (c).

EYES AND FACE: If exposed to dust or mist or solution, wear hard hat (or  
other head covering) and chemical safety goggles. Do not wear contact  
lenses.

HANDS, ARMS, AND BODY: Wear full work-clothing, including long-sleeved shirt  
and trousers for routine product-handling. Cotton gloves are usually  
adequate for dry product. For solutions, wear impervious gloves and  
apron. If contact is repeated or prolonged, wear full impervious  
clothing.

OTHER CLOTHING AND EQUIPMENT: Eyewash facility.

#### PHYSICAL DATA

MATERIAL IS (AT NORMAL CONDITIONS): SOLID

APPEARANCE AND ODOR: White granular crystals or powder. Odorless.

BOILING POINT: Decomposes 900 Degrees C

MELTING POINT: NO

SPECIFIC GRAVITY (H2O=1): 2.63

VAPOR DENSITY (AIR=1): NA

SOLUBILITY IN WATER (% by Weight): (Calculated as the anhydrous salt)  
17% solution at 10 Degrees C  
28% solution at 33.4 Degrees C

PH: 1% solution; pH=9.8 (approx.)

VAPOR PRESSURE (mm Hg at 20 Degrees C): NA

EVAPORATION RATE (Ether=1): NA (Butyl Acetate = 1): NA

VOLATILES BY VOLUME (At 20 Degrees C): NA

#### REACTIVITY DATA

STABILITY: STABLE

CONDITIONS TO AVOID: High temperature (before melting); yield sulfur dioxide  
gas and hazardous residue (details below).

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS cause vigorous  
exothermic reactions.

ACIDS release sulfur dioxide gas (details below).

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DS NO: 6003068  
EFFECTIVE DATE: 11/23/92

VAN WATERS & ROGERS INC.  
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PRODUCT: SODIUM SULFITE

ORDER NO: 141120  
PROD NO : 503217

However, it is not mutagenic in studies involving insects and is not considered to present a mutagenic threat to multicell organisms, (i.e. animals, humans).

This product is not for drug or food use unless so labeled.

For food grade product, the following applies:

- 1) Effective July 9, 1986, the FDA has banned the use of "Sulfiting Agent" or "Sulfites" on fruits and vegetables intended to be served or sold raw to consumers.
- 2) Effective July 9, 1987, the FDA is requiring when a sulfite is present in a detectable amount in a finished food, regardless of whether it has been directly or indirectly added via one or more of the food ingredients, it must be declared on the label. The regulation defines a "detectable amount" of sulfite to be 10 ppm.
- 3) Sulfiting agents or sulfites are not to be used on foods or meats recognized as a source of Vitamin B1.

NOTE: ND = NOT DETERMINED NA = NOT APPLICABLE  
\* = PROPRIETARY - TRADE SECRET

10-0930 Rcd 3-18-94

REPORT NUMBER: 971  
MSDS NO: P1866  
EFFECTIVE DATE: 01/15/90

VAN WATERS & ROGERS INC.  
MATERIAL SAFETY DATA SHEET

PAGE: 001  
VERSION: 003

PRODUCT: POTASSIUM BROMIDE

ORDER NO:  
PROD NO :

VAN WATERS & ROGERS INC. , SUBSIDIARY OF UNIVAR (206)889-3400  
6100 CARILLON POINT , KIRKLAND , WA 98033

----- EMERGENCY ASSISTANCE -----

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(800)424-9300

----- FOR PRODUCT AND SALES INFORMATION -----

CONTACT YOUR LOCAL VAN WATERS & ROGERS BRANCH OFFICE AT  
VW&R SPOKANE 509-534-0405 SPOKANE , WA

----- PRODUCT IDENTIFICATION -----

PRODUCT NAME: POTASSIUM BROMIDE CAS NO.: 7758-02-3  
COMMON NAMES/SYNONYMS: POTASSIUM SALT OF BROMIDE VW&R CODE: P1866

FORMULA: K BR DATE ISSUED: 08/89  
HAZARD RATING (NFPA 704 CRITERIA) SUPERCEDES: 07/87  
HEALTH: 0 HAZARD RATING SCALE:  
FIRE: 0 0=MINIMAL 3=SERIOUS  
REACTIVITY: 0 1=SLIGHT 4=SEVERE  
SPECIAL: NONE 2=MODERATE

----- HAZARDOUS INGREDIENTS -----

EXPOSURE LIMITS, MG/M3

COMPONENT	%	OSHA ACGIH OTHER			HAZARD
		PEL	TLV	LIMIT	
POTASSIUM BROMIDE	>99	NONE	NONE	10(DOW)	NONE

----- PHYSICAL PROPERTIES -----

BOILING POINT, DEG F: 2516 VAPOR PRESSURE, MM HG/20 DEG C: N/A  
MELTING POINT, DEG F: 1346 VAPOR DENSITY (AIR=1): N/A  
SPECIFIC GRAVITY (WATER=1): 2.75 WATER SOLUBILITY, %: 70  
APPEARANCE AND ODOR: EVAPORATION RATE (BUTYL ACETATE=1): N/A  
WHITE CRYSTALLINE SOLID; ODORLESS

REPORT NUMBER: 971  
MSDS NO: P1866  
EFFECTIVE DATE: 01/15/90

VAN WATERS & ROGERS INC.  
MATERIAL SAFETY DATA SHEET

PAGE: 003  
VERSION: 003

PRODUCT: POTASSIUM BROMIDE

ORDER NO:  
PROD NO :

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DERMAL: NO DATA FOUND

INHALATION: NO DATA FOUND

CARCINOGENICITY: THIS MATERIAL IS NOT CONSIDERED TO BE A CARCINOGEN BY THE NATIONAL TOXICOLOGY PROGRAM, THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER, OR THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

OTHER DATA: BROMIDE ION HAS BEEN SHOWN TO INTERFERE WITH FERTILITY IN ANIMAL STUDIES.

-----PERSONAL PROTECTION-----

VENTILATION: LOCAL MECHANICAL EXHAUST VENTILATION CAPABLE OF MINIMIZING DUST EMISSIONS AT THE POINT OF USE.

RESPIRATORY PROTECTION: IF USE CONDITIONS GENERATE DUSTS, WEAR A NIOSH-APPROVED RESPIRATOR APPROPRIATE FOR THOSE EMISSION LEVELS. APPROPRIATE RESPIRATORS MAY BE A FULL FACEPIECE OR A HALF MASK AIR-PURIFYING CART-RIDGE RESPIRATOR WITH PARTICULATE FILTERS, A SELF-CONTAINED BREATHING APPARATUS IN THE PRESSURE DEMAND MODE, OR A SUPPLIED-AIR RESPIRATOR. ABSENCE OF ADEQUATE ENVIRONMENTAL CONTROLS AT THE POINT OF USE.

EYE PROTECTION: SAFETY GLASSES WITH SIDE SHIELDS. IT IS GENERALLY RECOGNIZED THAT CONTACT LENSES SHOULD NOT BE WORN WHEN WORKING WITH CHEMICALS BECAUSE CONTACT LENSES MAY CONTRIBUTE TO THE SEVERITY OF AN EYE INJURY.

PROTECTIVE CLOTHING: LONG-SLEEVED SHIRT, TROUSERS, SAFETY SHOES, AND GLOVES.

OTHER PROTECTIVE MEASURES: AN EYEWASH AND SAFETY SHOWER SHOULD BE NEARBY AND READY FOR USE.

-----FIRE AND EXPLOSION INFORMATION-----

FLASH POINT, DEG F: N/A  
METHOD USED: N/A  
EXTINGUISHING MEDIA: THIS MATERIAL IS NOT COMBUSTIBLE. USE EXTINGUISHING MEDIA APPROPRIATE FOR SURROUNDING FIRE.

FLAMMABLE LIMITS IN AIR, %  
LOWER: N/A UPPER: N/A

SPECIAL FIRE FIGHTING PROCEDURES: FIRE FIGHTERS SHOULD WEAR SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING. USE WATER SPRAY TO COOL NEARBY CONTAINERS AND STRUCTURES EXPOSED TO FIRE. CONTAINED BREATHING APPARATUS.

UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE.

