

# PHOTOGRAPHERS' FORMULARY

## AMIDOL DEVELOPER FOR AZO PAPER

Directions for mixing and using AMIDOL DEVELOPER FOR AZO PAPER: kit sizes, 1 liter (Catalog number 02-0042), 3 liters (Catalog number 02-0043).

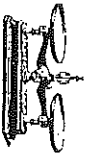
We would like to thank Michael A. Smith and Paula Chamlee for their permission, and for their information, which enabled us to produce this Azo Paper developer. All information for these instructions was gathered from [www.michaelandpaula.com](http://www.michaelandpaula.com). For additional information on this process or other Azo Paper products you can go to [www.michaelandpaula.com](http://www.michaelandpaula.com)

Amidol is regarded as one of the finest developers available. With this developer you can expect tones that are neutral to slightly warm tones. By varying the Potassium Bromide you can get tones varying all the way from cool to warm. Amidol works on all papers but particularly on silver chloride paper where it produces a pleasing tonal range. Because of its unique developing qualities, Amidol is the favorite developer of photographers who exhibit their prints.

### CHEMICAL SAFETY

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

Amidol must be used with caution. It is probably absorbed through the skin so the use of disposable rubber or nitrile gloves is recommended when working with Amidol solutions.



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)

AMIDOL DEV. FOR AZO PAPER  
CAT. NOS. 02-0042, 02-0043

PHOTOGRAPHERS'  
FORMULARY

AMIDOL DEV. FOR AZO PAPER  
CAT. NOS. 02-0042, 02-0043

PHOTOGRAPHERS'  
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MSDS Date: December 2, 2003  
Emergency Contact: 1-800-424-9300

**SECTION I**

PRODUCT NAME: Sodium Sulfite, Catalyzed  
CHEMICAL NAME: Sodium Sulfite, catalyzed  
CHEMICAL FAMILY: Inorganic Sulfite  
SYNONYMS: B 501; Catalyzed Anhydrous Sodium Sulfite  
FORMULA: Na<sub>2</sub>SO<sub>3</sub> + catalyst

**DOT SHIPPING INFORMATION:**

Not DOT Regulated

**SECTION II - HAZARDOUS INGREDIENTS**

This material contains no ingredients which are known by Thatcher Company to be hazardous unless listed below.

HAZARDOUS MATERIAL	CAS NUMBER	w/w %	EXPOSURE LIMITS IN AIR
Sodium Sulfite	7757-83-7		TLV = 5 mg/m <sup>3</sup>
Cobalt Sulfate (as Co)	10124-43-3		TLV = 0.05 mg/m <sup>3</sup> PEL = 0.1 mg/m <sup>3</sup>

\*recommended  
The specific identity of some ingredients may be withheld for confidential business purposes. However, all known potential health effects from exposure to these ingredients are being addressed.

**SECTION III - PHYSICAL DATA**

BOILING POINT (F): N/A  
VAPOR PRESSURE (mm Hg): N/A  
% VOLATILE, BY VOLUME: N/A  
EVAPORATION RATE: N/A  
SOLUBILITY IN WATER: Soluble  
APPEARANCE AND ODOR: White to pink crystals or powder with saline, sulfurous taste.

**SECTION IV - FIRE AND EXPLOSION DATA**

FLASH POINT: Nonflammable  
FLAMMABLE LIMITS:  
Lel: N/A  
Uel: N/A  
EXTINGUISHING MEDIA:



**HANDLING AND STORAGE PRECAUTIONS:**

Store in a cool, dry area.

**STEPS TO BE TAKEN IF MATERIAL SPILLS OR LEAKS:**

Wear proper safety equipment. Sweep up material and put into drums. Flush residue to sewer with large amounts of water (if permitted).

**WASTE DISPOSAL METHOD:**

Dispose of in landfill. Comply with all local, state and federal regulations.

**OTHER PRECAUTIONS:**

N/A

**SECTION VIII - SPECIAL PROTECTION INFORMATION**

**RESPIRATORY PROTECTION:**

Use dust mask as needed to avoid breathing dust.

**VENTILATION:**

Use adequate ventilation.

**EYE PROTECTION:**

Wear goggles or safety glasses.

**SKIN PROTECTION:**

Wear rubber gloves.

**OTHER PROTECTIVE EQUIPMENT:**

None required.

- ACGIH = American Conference of Governmental Industrial Hygienists
- CL = Ceiling Level
- IARC = International Agency for Research on Cancer: Monographs
- OSHA = Occupational Safety and Health Administration
- N/A = Not Applicable
- NTP = National Toxicology Program: Annual Report on Carcinogens
- PEL = Permissible Exposure Level (OSHA)
- TLV = Threshold Limit Value (ACGIH)
- TWA = Time Weighted Average over 8 Hours
- STEL = Short Term Exposure Limit (ACGIH)
- ND = Not Determined

This information is, to the best of our knowledge, accurate but may not be complete. THATCHER COMPANY furnishes this information in good faith, but without warranty, representation or guarantee of its accuracy, completeness, or reliability.

ORDER NO: 226085  
PROD NO: 614395

PHOTOGRAPHERS FORMULARY  
CALL IN ADVANCE TO MEET  
7079 HWY 83 N.  
BOX 89  
CONDON, MT 59826

UNIVAR USA INC.  
8100 CARILLON POINT  
KIRKLAND, WA (425)889-3400  
98033

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

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

\*\*\*\*\*  
PRODUCT IDENTIFICATION  
\*\*\*\*\*

PRODUCT NAME: POTASSIUM BROMIDE

MSDS NUMBER: P21725VS

DATE ISSUED: 11/19/02

SUPERCEDES: NEW

ISSUED BY: 006137

REVIEWED DATE: 07/16/2004

THIS MSDS HAS BEEN REVIEWED ON 07/16/2004, AND IS  
CURRENT AS OF THE DATE ISSUED ABOVE.

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE & THE COMPANY

CHEMICAL NAME: POTASSIUM BROMIDE

CHEMICAL FORMULA: KBR

MOLECULAR WEIGHT: 120.98

TYPE OF PRODUCT AND USE

GET MEDICAL ATTENTION IF IRRITATION OCCURS.

INHALATION IN CASE OF DUST INHALATION OR BREATHING FUMES RELEASED FROM HEATED MATERIAL, REMOVE PERSON TO FRESH AIR.  
KEEP HIM QUIET AND WARM. APPLY ARTIFICIAL RESPIRATION IF NECESSARY AND GET MEDICAL ATTENTION IMMEDIATELY.  
INGESTION IF SWALLOWED, WASH MOUTH THOROUGHLY WITH PLENTY OF WATER AND GIVE WATER TO DRINK.  
GET MEDICAL ATTENTION IMMEDIATELY.

NOTE: NEVER GIVE AN UNCONSCIOUS PERSON ANYTHING TO DRINK.  
NOTES TO THE PHYSICIAN IN CASE OF INGESTION INDUCE VOMITING IN ALERT PATIENT. NO SPECIFIC ANTIDOTE. TREAT SYMPTOMATICALLY AND SUPPORTIVELY.

5 FIRE-FIGHTING MEASURES  
FLASH POINT NONE  
FLAMMABLE/EXPLOSION LIMITS NOT FLAMMABLE  
AUTO-IGNITION TEMPERATURE NOT APPLICABLE  
SUITABLE EXTINGUISHING MEDIA MATERIAL IS NOT COMBUSTIBLE. USE EXTINGUISHING MEDIA APPROPRIATE TO SURROUNDING FIRE CONDITIONS.  
FIRE FIGHTING PROCEDURE  
COOL CONTAINERS WITH WATER SPRAY. IN CLOSED STORES, PROVIDE FIRE-FIGHTERS WITH SELF-CONTAINED BREATHING APPARATUS IN POSITIVE PRESSURE MODE.  
UNUSUAL FIRE AND EXPLOSION  
HAZARDS WILL DECOMPOSE FROM CA. 800 C RELEASING POISONOUS AND CORROSIVE FUMES OF HBR.

6. ACCIDENTAL RELEASE MEASURES  
PERSONAL PRECAUTIONS WEAR RESPIRATOR, CHEMICAL SAFETY GOGGLES, RUBBER GLOVES AND BOOTS.  
METHODS FOR CLEANING UP SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL OR POSSIBLE RE-USE.  
AVOID RAISING DUST.  
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

7. HANDLING AND STORAGE

HAZARDOUS DECOMPOSITION  
PRODUCTS HBR  
HAZARDOUS POLYMERIZATION WILL NOT OCCUR  
11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:  
- RAT ORAL LD50 > 5000 MG/KG  
- EYE IRRITATION (RABBIT) IRRITANT  
- DERMAL IRRITATION (RABBIT) NOT IRRITANT

CHRONIC TOXICITY REPEATED SKIN CONTACT MAY CAUSE DERMATITIS.  
REPEATED ORAL INTAKE OF BROMIDES (>9 MG/KG BODY WEIGHT/DAY) MAY AFFECT THE  
CENTRAL NERVOUS SYSTEM. WARNING SYMPTOMS INCLUDE MENTAL DULLNESS, SLURRED  
SPEECH, WEAKENED MEMORY, APATHY, ANOREXIA, CONSTIPATION, DROWSINESS AND LOSS  
OF SENSITIVITY TO TOUCH AND PAIN.

MUTAGENICITY NOT MUTAGENIC BY THE AMES TEST  
CARCINOGENICITY NOT KNOWN TO BE A CARCINOGEN.  
NOT CLASSIFIED BY IARC.  
NOT INCLUDED IN NTP 9TH REPORT ON CARCINOGENS.

12. ECOLOGICAL INFORMATION  
ENVIRONMENTAL FATE KBR IS AN INORGANIC SALT, WHICH FULLY DISSOCIATES IN  
AQUATIC ENVIRONMENT TO BROMIDE AND POTASSIUM IONS. IT ALSO UNDERGOES  
DEGRADATION IN SOIL TO BROMIDE ION (NO FURTHER DEGRADATION OR BIODEGRADATION  
WILL OCCUR).

AQUATIC TOXICITY  
- LC50, FISH 3200 MG/L, 5 DAYS (RAINBOW TROUT)  
- 48 HOUR-EC50, DAPHNIA MAGNA >100 MG/L

AVIAN TOXICITY:  
- ORAL LD50, BOBWHITE QUAIL >2500 MG/KG  
- DIETARY LC50, BOBWHITE QUAIL 6000 PPM

BIOACCUMULATIVE POTENTIAL BIOACCUMULATION IS NOT LIKELY TO OCCUR SINCE THIS  
MATERIAL IS HIGHLY SOLUBLE IN WATER.

13. DISPOSAL CONSIDERATIONS  
WASTE DISPOSAL ADD INTO A LARGE VESSEL CONTAINING WATER AND DRAIN INTO SEWER  
WITH AMPLE WATER. OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL  
REGULATIONS WHEN DISPOSING OF THIS MATERIAL.

ORDER NO: 226085  
PROD NO: 614395

- PROGRAMS
- \* WORK FOR CONTINUAL IMPROVEMENT IN HSE PERFORMANCE
  - \* REGULARLY ASSESS AND RESPONSIBLY MANAGE HEALTH, SAFETY AND ENVIRONMENTAL RISKS ASSOCIATED WITH PRODUCTS AND PROCESSES
  - \* EDUCATE AND TRAIN ALL MANAGERS AND EMPLOYEES TO IMPROVE THEIR HSE PERFORMANCE
  - \* DISTRIBUTE UPDATED INFORMATION CONCERNING ITS POLICY AND PRODUCTS TO ITS WORKERS, CUSTOMERS AND OTHER INTERESTED PARTIES THROUGH MATERIAL SAFETY DATA SHEET (MSDS), WORKERS' SAFETY SHEETS AND THROUGH THE DSBG INTERNET SITE
  - \* DEVELOP BUSINESS RELATIONSHIPS WITH RESPONSIBLE SUPPLIERS, TRANSPORTERS AND DISTRIBUTORS AND PROVIDE THEM WITH HSE SUPPORT, INFORMATION AND TRAINING
  - \* SUPPORT PRODUCT STEWARDSHIP PROGRAMS IN COOPERATION WITH CUSTOMERS, DISTRIBUTORS AND TRANSPORTERS
  - \* ALLOCATE THE NECESSARY RESOURCES FOR IMPLEMENTATION OF THIS POLICY

PREPARED BY HSE DIVISION IN ISRAEL  
TELEPHONE: +/972-8-6297830  
TELEFAX: +/972-8-6297832  
WWW.DSBG.COM

END OF SAFETY DATA SHEET



MSDS Date: December 2, 2003  
 Emergency Contact: 1-800-424-9300

**SECTION I**

PRODUCT NAME: Citric Acid  
 CHEMICAL NAME: (2-hydroxy-1,2,3-propanetricarboxylic acid  
 CHEMICAL FAMILY: Organic Acids

DOT SHIPPING INFORMATION: Not DOT regulated.

**SECTION II - HAZARDOUS INGREDIENTS**

HAZARDOUS MATERIAL	CAS NUMBER	w/w %	EXPOSURE LIMITS IN AIR
Citric acid	77-92-9		None established

This material contains no ingredients which are known by Thatcher Company to be hazardous unless listed below. The specific identity of some ingredients may be withheld for confidential business purposes. However, all known potential health effects from exposure to these ingredients are being addressed.

**SECTION III - PHYSICAL DATA**

BOILING POINT (°F): Decomposes  
 VAPOR PRESSURE (mm Hg): N/A  
 % VOLATILE, BY VOLUME: N/A  
 VAPOR DENSITY (air = 1): N/A  
 EVAPORATION RATE: N/A  
 SOLUBILITY IN WATER: Very soluble  
 APPEARANCE AND ODOR: Colorless, translucent crystals with no odor.

**SECTION IV - FIRE AND EXPLOSION DATA**

FLASH POINT: Nonflammable  
 FLAMMABLE LIMITS: Lel: N/A Uel: N/A  
 EXTINGUISHING MEDIA: Use any.  
 SPECIAL FIRE-FIGHTING PROCEDURES: None.  
 UNUSUAL FIRE AND EXPLOSION HAZARDS: None.





SECTION VIII - SPECIAL PROTECTION INFORMATION

**RESPIRATORY PROTECTION:**  
None normally required.

**VENTILATION:**  
Adequate ventilation is sufficient.

**EYE PROTECTION:**  
Chemical goggles.

**SKIN PROTECTION:**  
Rubber gloves.

**OTHER PROTECTIVE EQUIPMENT:**  
As needed to prevent contact with skin and eyes.

ACGIH = American Conference of Governmental Industrial Hygienists  
CL = Ceiling Level  
IARC = International Agency for Research on Cancer: Monographs  
OSHA = Occupational Safety and Health Administration  
N/A = Not Applicable  
NTP = National Toxicology Program: Annual Report on Carcinogens  
PEL = Permissible Exposure Level (OSHA)  
TLV = Threshold Limit Value (ACGIH)  
TWA = Time Weighted Average over 8 Hours  
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10-0040

MAY-17-2002 FRI 11:07 AM JOHNSON MATTHEY

FAX NO. 1 978 521 6366

P. 01

Page 1/6


**Material Safety Data Sheet**  
acc. to OSHA and ANSI

Printing date 05/17/2002

Reviewed on 05/17/2002

**1 Identification of substance:**  
Product details:  
Trade name: 2,4-Diaminophenol dihydrochloride  
Stock number: A17697  
Manufacturer/Supplier:  
Alfa Aesar, A Johnson Matthey company  
30 Bond Street  
Ward Hill, MA 01835-8099  
Emergency Phone: (978) 521-6300  
CHEMTREC: (800) 424-9300  
Web site: www.alfa.com  
Information department: Health, Safety and Environmental Department  
During normal hours the Health, Safety and Environmental  
Department. After normal hours call Chemtec at (800) 424-9300.

**2 Composition/Data on components:**  
Chemical characterization:  
Description: (CAS#)  
2,4-Diaminophenol dihydrochloride (CAS# 137-09-7): 100%  
Identification number(s):  
BINCS Number: 205-279-4

**3 Hazards identification**  
Hazard description:  
 C Corrosive  
Information pertaining to particular dangers for man and environment  
R 22 Harmful if swallowed.  
R 34 Causes burns.  
R 68 Possible risk of irreversible effects.  
Classification system  
HMIS ratings (scale 0-4)  
(Hazardous Materials Identification System)  
Health (acute effects) = 2  
Flammability = 1  
Reactivity = 1

**4 First aid measures**  
General information  
Immediately remove any clothing soiled by the product.  
After inhalation  
Supply fresh air. If required, provide artificial respiration. Keep patient warm.  
Seek immediate medical advice.  
After skin contact  
Immediately wash with water and soap and rinse thoroughly.  
Seek immediate medical advice.  
After eye contact  
Rinse opened eye for several minutes under running water. Then consult a doctor.  
(Contd. on page 2)

Post-it® Fax Note	7671	Date	5/17	# of pages	6
To	BILL	From	RAYMOND		
Co./Dept.	Formulary	Co.	ALFA		
Phone #		Phone #	(978) 521 6322		
Fax #	(406) 754-2896	Fax #			

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 05/17/2002

Reviewed on 05/17/2002

Trade name: 2,4-Diaminophenol dihydrochloride

8 Exposure controls and personal protection
Additional information about design of technical systems:
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Components with limit values that require monitoring at the workplace:
Not required.

Additional information: No data

Personal protective and hygienic measures
The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.
Remove all soiled and contaminated clothing immediately.
Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.
Breathing equipment:
Use suitable respirator when high concentrations are present.

Protection of hands:
Impervious gloves
Check protective gloves prior to each use for their proper condition.

Material of gloves
The selection of the suitable gloves does not only depend on the material, but also on quality and varies from manufacturer to manufacturer.

Eye protection:
Safety glasses
Tightly sealed goggles
Full face protection
Body protection: Protective work clothing.

9 Physical and chemical properties:

General Information
Form: Powder
Color: Grey
Odor: Not determined

Change in condition
Melting point/Melting range: 221-223°C (430-433°F) (dec)
Boiling point/Boiling range: Not determined
Sublimation temperature / start: Not determined

Flash point: Not applicable
Ignition temperature: Not determined
Decomposition temperature: Not determined

Danger of explosion: Product does not present an explosion hazard.
Explosion limits: Lower: Not determined, Upper: Not determined

Vapor pressure: Not determined
Density: Not determined

(Contd. on page 4)

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 05/17/2002

Reviewed on 05/17/2002

Trade name: 2,4-Diaminophenol dichlorohydride

(Contd. of page 5)

Proper shipping name:

Corrosive solid, n.o.s. (2,4-Diaminophenol dichlorohydride)

Air transport ICAO-TI and IATA-DGR:



ICAO/IATA Class:

8

UN/ID Number:

1759

Packaging group:

III

Proper shipping name:

Corrosive solid, n.o.s. (2,4-Diaminophenol dichlorohydride)

15 Regulations

Product related hazard informations:

Hazard symbols:

C Corrosive

Risk phrases:

22 Harmful if swallowed.

34 Causes burns.

68 Possible risk of irreversible effects.

Safety phrases:

20 When using do not eat or drink.

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

45 In case of accident or if you feel unwell, seek medical advice immediately.

60 This material and its container must be disposed of as hazardous waste.

National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory.

Information about limitation of use:

For use only by technically qualified individuals.

16 Other information:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing MSDS:

Health, Safety and Environmental Department.

Contact: Darrell R. Sanders