

Volume of Stock Solution B to be added,

1000
----- x 3 (from Beers' Chart, #4) = 187.5 ml
16

Volume of water to be added,

1000
----- x 8 (from Beers' Chart, #4) = 500 ml
16

The total volume will be:

312.5 + 187.5 + 500 = 1000 ml

DEVELOPMENT

A typical development run using Dr. Beers' Developer would be as follows:

Develop: 3 to 3.5 minutes
Stop: 30 seconds in acetic stop bath (cat. no. 03-0185)
Fix: 5 minutes in first bath of a two-bath fixer and 5 minutes in the second bath. Use Formulary Fixer 24 (cat. no. 03-0010).
Wash: 1 minute in running water
Clear: 2-3 minutes using Formulary Hypo Clear Agent (catalog number 03-0165)
Wash: 10-20 minutes in running water

Ansel Adams gives an excellent and detailed description of the use of Dr. Beers' developer in his book "The Print", pp. 60-65. In this method, the paper is exposed for the highlights and developed for the shadows.

Three trays of Dr. Beers' working solution are prepared. The first tray contains Beers' #1; the second, Beers' #4; and the third, Beers' #7. Expose a test strip and develop it in Beers' #4. After the test strip has been fixed, decide which exposure produced good clean highlights with some detail. Using this exposure setting, expose a print and develop it in Beers' #4. After fixing, view the print and decide if the shadows are too light, too dark, or just right. If the shadows are too light, develop the next print in Beers' #7. The shadows will be darker and the print will have more contrast. A slight decrease in exposure may be necessary to keep the highlights clean. If the shadows are too dark, develop the next print in Beers' #1. A slight increase in exposure may be necessary to keep the detail in the highlights. To further fine-tune the print, use Beers' #2 and #3 or Beers' #5 and #6, depending upon the results from the above test.

PHOTOGRAPHERS' FORMULARY INC.

P.O. Box 950 • Condon MT 59826 • 800-922-5255 • FAX 406-754-2896
E-mail: formulary@photoformulary.com

FORMULARY DR. BEERS' VARIABLE CONTRAST PAPER DEVELOPER

Directions for mixing and using Formulary Dr. Beers' Paper Developer, 1-liter size (cat. no. 02-0120) and 2-liter size (cat. no. 02-0130).

Dr. Rolan F. Beers formulated his developer so that he could change print contrast using a single type of paper. Today, Dr. Beers' developer is extremely useful to fine-tune the contrast of a print.

The range of contrast that can be obtained using the Dr. Beers' developer is not large. In terms of paper contrast grades, the variation is only about 1.5 paper grades. For example, a number two paper can be printed from about grade 1.25 to about grade 2.75. However, any amount of contrast gradation within this range can be achieved by combining different proportions of the two stock solutions to obtain the working solution.

Stock Solution A contains metol, a soft-working developer. When stock Solution A is used alone a low-contrast print is obtained. Stock Solution B contains hydroquinone, a high contrast developer. When Stock Solution B is used alone, a high contrast print is obtained. Intermediate degrees of contrast are obtained by using various mixtures of Solutions A and B.

CHEMICAL SAFETY

All chemicals are dangerous and must be treated with respect. Please read the chemical warnings listed below, and on each package. Always use rubber gloves and a dust mask when using chemicals.

HYDROQUINONE: Considered hazardous by EPA. It is considered a skin sensitizer, and may cause eye or skin irritation. Please handle this liquid with gloves and splash goggles. If ingested or splashed in the eyes, contact a physician.

METOL: Some individuals become sensitized (develop allergic symptoms or rashes) when using metol. If this should occur, discontinue use and consult a physician.

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 WITHIN 30 DAYS FOR A FULL REFUND.**

MATERIAL SAFETY DATA SHEET
(M. S. D. S.)

SECTION – I, CHEMICAL IDENTIFICATION

NAME OF PRODUCT : METOL (p-METHYL AMINOPHENOL SULPHATE)
CHEMICAL FORMULA : $\text{HOC}_6\text{H}_4\text{NHCH}_3 \frac{1}{2} \text{H}_2\text{SO}_4$
CAS NO. : 55-55-0

SECTION – II, HAZARDS IDENTIFICATION

- TOXIC BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.
- IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
- IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).
- IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.
- WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE PROTECTION.

Continue on page....2

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SECTION – III, FIRST-AID MEASURES

- IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH PLENTY 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 – IV, 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.

Continue on page....3

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SECTION – V, ACCIDENTAL RELEASE MEASURES

- WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY RUBBER GLOVES.
- SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL.
- VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

SECTION – VI, SAFE HANDLING / PERSONAL PROTECTION

- WEAR APPROPRIATE RESPIRATOR, CHEMICAL-RESISTANT GLOVES, SAFETY GOGGLES.
- SAFETY SHOWER AND EYE BATH.
- USE ONLY IN A CHEMICAL FUME HOOD.
- DO NOT BREATHE DUST.
- AVOID CONTACT WITH EYES, SKIN AND CLOTHING.
- AVOID PROLONGED OR REPEATED EXPOSURE.
- WASH THOROUGHLY AFTER HANDLING.
- TOXIC.
- IRRITANT.
- POSSIBLE SENSITIZER.
- KEEP TIGHTLY CLOSED.
- PROTECT FROM LIGHT.

SECTION – VII, PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR	:	WHITE CRYSTALS, ODORLESS
PHYSICAL PROPERTIES		
MELTING POINT	:	260 ⁰ C (DEC)
AUTOIGNITION TEMPERATURE	:	531 ⁰ C

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SECTION –VIII, STABILITY AND REACTIVITY

- INCOMPATIBILITIES
ACIDS
ACIDS CHLORIDES
ACID ANHYDRIDES
OXIDIZING AGENTS
SENSITIVE TO LIGHT

- HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS

THERMAL DECOMPOSITION MAY PRODUCE CARBON MONOXIDE, CARBON DIOXIDE, AND NITROGEN OXIDES.
SULFUR OXIDES.

SECTION –IX, TOXICOLOGICAL INFORMATION

ACUTE EFFECTS

- HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN.
- CAUSES EYE AND SKIN IRRITATION.
- MATERIAL IS IRRITATING TO MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT.
- PROLONGED OR REPEATED EXPOSURE MAY CAUSE ALLERGIC REACTIONS IN CERTAIN SENSITIVE INDIVIDUALS.
- TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

SECTION –X, OTHER INFORMATION

The information submitted is based on our current knowledge and experience. In view of the many factors that may affect processing and application, these data do not relieve processor from the responsibility of carrying out their own tests and experiments, neither do they imply any legally binding assurance of certain properties or of suitability for a specific purpose. It is the responsibility of those to whom we supply our products to ensure that any proprietary rights and existing laws and legislation are observed.

**THATCHER COMPANY MATERIAL SAFETY DATA SHEET****PRODUCT: SODIUM SULFITE, CATALYZED**

Page 1 of 3

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: Na₂SO₃ + 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 ³
Cobalt Sulfate (as Co)	10124-43-3		TLV = 0.05 mg/m ³ * PEL = 0.1 mg/m ³

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. *recommended

SECTION III - PHYSICAL DATA

BOILING POINT (F): N/A **SPECIFIC GRAVITY:** 2.633 @ 15.4 EC
VAPOR PRESSURE (mm Hg): N/A **% VOLATILE, BY VOLUME:** N/A
VAPOR DENSITY (air = 1): 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:



THATCHER COMPANY MATERIAL SAFETY DATA SHEET
PRODUCT: SODIUM SULFITE, CATALYZED
Page 2 of 3

Use any.

SPECIAL FIRE-FIGHTING PROCEDURES:

Wear self-contained breathing apparatus if necessary.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

When heated, catalyzed sodium sulfite decomposes and emits highly toxic fumes of sodium oxide and sulfur oxides.

SECTION V - REACTIVITY DATA

STABILITY: Stable

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS OR MATERIALS TO AVOID:

None.

HAZARDOUS DECOMPOSITION PRODUCTS:

When heated, catalyzed sodium sulfite decomposes and emits toxic fumes of sodium oxide and sulfur oxides.

SECTION VI - HEALTH HAZARD DATA

CARCINOGENIC LISTING:

NTP: No ingredients listed in this section.

IARC MONOGRAPHS: No ingredients listed in this section.

OSHA 29 CFR 1910: No ingredients listed in this section.

ENTRY ROUTES & EFFECTS OF OVEREXPOSURE:

Contact: Contact may irritate eyes.

Ingestion: If swallowed, can cause irritation of stomach, nausea and gas.

STATEMENT OF PRACTICAL TREATMENT:

Contact: Flush exposed area thoroughly with soap and water. For eyes, flush with cool water for at least 15 minutes. If irritation persists, get medical attention.

Ingestion: If swallowed, give several glasses of water and call a physician immediately.

SECTION VII - SPECIAL PRECAUTIONS



THATCHER COMPANY MATERIAL SAFETY DATA SHEET
PRODUCT: SODIUM SULFITE, CATALYZED
Page 3 of 3

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.

MATERIAL SAFETY DATA SHEET**SODIUM CARBONATE MONOHYDRATE****1. Product Identification**

Synonyms: Carbonic acid, disodium salt monohydrate; disodium carbonate monohydrate; Soda ash

CAS No.: 5968-11-6 (Anhydrous) 5968-11-6 (Monohydrate)

Molecular Weight: 124.00

Chemical Formula: Na₂CO₃·H₂O

Product Codes: CANTON LABORATORIES : 47040, 67160, 57042

2. Composition/Information on Ingredients

Ingredient Hazardous	CAS No	Percent	
Sodium Carbonate	5968-11-6	99.5-100.58	No

3. Hazards Identification**Emergency Overview**

DANGER! MAY CAUSE EYE BURNS. HARMFUL IF SWALLOWED OR INHALED. CAUSES IRRITATION TO SKIN AND RESPIRATORY TRACT.

Health Rating: 1 - Slight

Flammability Rating: 0 - None

Reactivity Rating: 1 - Slight

Contact Rating: 2 - Moderate

Lab Protective Equip: GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES

Storage Color Code: Orange (General Storage)

Potential Health Effects**Inhalation:**

Inhalation of dust may cause irritation to the respiratory tract. Symptoms from excessive inhalation of dust may include coughing and difficult breathing. Excessive contact is known to cause damage to the nasal septum.

Ingestion:

Sodium carbonate is only slightly toxic, but large doses may be corrosive to the

gastro-intestinal tract where symptoms may include severe abdominal pain, vomiting, diarrhea, collapse and death.

Skin Contact:

Excessive contact may cause irritation with blistering and redness. Solutions may cause severe irritation or burns.

Eye Contact:

Contact may be corrosive to eyes and cause conjunctival edema and corneal destruction. Risk of serious injury increases if eyes are kept tightly closed. Other symptoms may appear from absorption of sodium carbonate into the bloodstream via the eyes.

Chronic Exposure:

Prolonged or repeated skin exposure may cause sensitization.

4. First Aid Measures

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion:

If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Contact:

Immediately flush skin with plenty of soap and water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

Note to Physician:

Consider endoscopy in all suspected cases of sodium carbonate poisoning. Perform blood analysis to determine if dehydration, acidosis, or other electrolyte imbalances occurred.

5. Fire Fighting Measures

Fire:

Not considered to be a fire hazard.

Explosion:

Not considered an explosion hazard, but sodium carbonate may explode when applied to red-hot aluminum.

Fire Extinguishing Media:

Use any means suitable for extinguishing surrounding fire.

Special Information:

Use protective clothing and breathing equipment appropriate for the surrounding fire.

6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal.

7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

None established.

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):

For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:

Wear protective gloves and clean body-covering clothing.

Eye Protection:

Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance:

White crystalline powder.

Odor:

Odorless.

Solubility:

30 g/100 ml water @ 60C (140F)

Density:

2.25

pH:

Aqueous solutions are strongly alkaline.

% Volatiles by volume @ 21C (70F):

0

Boiling Point:

400C (752F)

Melting Point:

851C (1564F) Loses water at ca. 100C.

10. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:

Oxides of carbon and sodium oxide.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Fluorine, aluminum, phosphorous pentoxide, sulfuric acid, zinc, lithium, moisture, calcium hydroxide and 2,4,6-trinitrotoluene. Reacts violently with acids to form carbon dioxide.

Conditions to Avoid:

Moisture, heat, dusting and incompatibles.

11. Toxicological Information

For anhydrous sodium carbonate: Oral rat LD50: 4090 mg/kg; inhalation rat LC50: 2300 mg/m³/2H; irritation eye rabbit: 50 mg severe; investigated as a mutagen, reproductive effector.

-----\Cancer Lists\-----			
Ingredient Category	---NTP Carcinogen---		IARC
	Known	Anticipated	
Sodium Carbonate (5968-11-6)	No	No	None

12. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

13. Transport Information

Not regulated.

14. Regulatory Information

-----\Chemical Inventory Status - Part 1\-----

Ingredient	TSCA	EC	Japan
Australia			
Sodium Carbonate (5968-11-6)	Yes	Yes	Yes

-----\Chemical Inventory Status - Part 2\-----

Ingredient	Korea	DSL	NDSL	Phil.
Sodium Carbonate (5968-11-6)	Yes	Yes	No	Yes

-----\Federal, State & International Regulations - Part 1\-----

Ingredient	-SARA 302-		-SARA 313-	
	RQ	TPQ	List	Chemical
Sodium Carbonate (5968-11-6)	No	No	No	No

-----\Federal, State & International Regulations - Part 2\-----

Ingredient	CERCLA	-RCRA-	-TSCA-
		261.33	B(d)
Sodium Carbonate (5968-11-6)	No	No	No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
 SARA 311/312: Acute: Yes Chronic: No Fire: No Pressure: No
 Reactivity: No (Pure / Solid)

Poison Schedule: S5

WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

15. Other Information

NFPA Ratings: Health: 2 Flammability: 0 Reactivity: 0

Label Hazard Warning:

DANGER! MAY CAUSE EYE BURNS. HARMFUL IF SWALLOWED OR INHALED. CAUSES IRRITATION TO SKIN AND RESPIRATORY TRACT.

Label Precautions:

- Do not get in eyes.
- Avoid breathing dust.
- Keep container closed.
- Use with adequate ventilation.
- Wash thoroughly after handling.

Label First Aid:

In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. If swallowed, DO NOT INDUCE VOMITING. Give large

quantities of water. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. Get medical attention for any breathing difficulty. In all cases, get medical attention.

Product Use:

Laboratory Reagent.

Prepared by: CANTON LABORATORIES

Phone Number: (+91) 265 643119/638001 (INDIA)

PRODUCT: POTASSIUM BROMIDE

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.
6100 CARILLON POINT , KIRKLAND

(425)889-3400
WA 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

PRODUCT: POTASSIUM BROMIDE

ORDER NO: 226085

PROD NO : 614395

FOR USE IN PHOTOGRAPHIC EMULSIONS AND DEVELOPING SOLUTIONS
HEAT STABILIZER IN NYLON
BROMINATING AGENT

COMPANY BROMINE COMPOUNDS LTD.
P.O.B 180, BEER SHEVA 84101, ISRAEL
TEL +972-8-6297830

SUPPLIER AMERIBROM, INC.
2115 LINWOOD AVENUE, FORT LEE, NEW JERSEY 07024-5004
USA TEL: 201 242 6560

EMERGENCY TELEPHONE CHEMTREC (800)424-9300

2. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENTS	WEIGHT %	ACGIH-TLV DATA	OSHA (PEL) DATA
POTASSIUM BROMIDE	99.5	NOT DETERMINED	NOT DETERMINED
7758-02-3			

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW WHITE, ODOURLESS, CRYSTALLINE SOLID
IRRITANT TO EYES

POTENTIAL HEALTH EFFECTS:

- EYE CONTACT IRRITANT
- SKIN CONTACT NOT IRRITANT TO INTACT SKIN. SLIGHTLY IRRITANT ON PROLONGED CONTACT TO ABRADED SKIN.
- INHALATION MAY CAUSE IRRITATION TO MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT.
- INGESTION MAY CAUSE FALLING ASLEEP, MUSCULAR INCOORDINATION AND RESPIRATORY DEPRESSION.

ABDOMINAL PAIN, NAUSEA AND VOMITING.

4. FIRST-AID MEASURES

EYE CONTACT HOLDING THE EYELIDS APART, FLUSH EYES PROMPTLY WITH COPIOUS FLOWING WATER FOR AT LEAST 20 MINUTES.

GET MEDICAL ATTENTION IMMEDIATELY.

SKIN CONTACT REMOVE CONTAMINATED CLOTHING. WASH SKIN THOROUGHLY WITH MILD SOAP AND PLENTY OF WATER FOR AT LEAST 15 MINUTES. WASH CLOTHING BEFORE RE-USE.

PRODUCT: POTASSIUM BROMIDE

ORDER NO: 226085
PROD NO : 614395

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

PRODUCT: POTASSIUM BROMIDE

ORDER NO: 226085

PROD NO : 614395

HANDLING AVOID BODILY CONTACT.
KEEP CONTAINERS TIGHTLY CLOSED.
STORAGE HYGROSCOPIC. AVOID EXPOSURE TO MOISTURE.
STORE IN A DRY, COOL, WELL-VENTILATED AREA AWAY FROM INCOMPATIBLE MATERIALS
(SEE "MATERIALS TO AVOID").

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

VENTILATION REQUIREMENTS MECHANICAL EXHAUST REQUIRED.
VENTILATION MUST BE SUFFICIENT TO MAINTAIN TLV-TWA BELOW 10 MG/M3 (ACGIH
RECOMMENDATION FOR PARTICULATES (INSOLUBLE) NOT OTHERWISE SPECIFIED (PNOS)).

PERSONAL PROTECTIVE EQUIPMENT:

- RESPIRATORY PROTECTION DUST RESPIRATOR
- HAND PROTECTION PVC GLOVES RUBBER GLOVES
- EYE PROTECTION CHEMICAL SAFETY GOGGLES
- SKIN AND BODY PROTECTION BODY COVERING CLOTHES AND BOOTS

HYGIENE MEASURES SAFETY SHOWER AND EYE BATH SHOULD BE PROVIDED. DO NOT EAT,
DRINK OR SMOKE UNTIL AFTER-WORK SHOWERING AND CHANGING CLOTHES.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	WHITE, ODOURLESS, CRYSTALLINE SOLID
MELTING POINT/RANGE	734 C
BOILING POINT/RANGE	1435 C
VAPOUR PRESSURE	1 MM HG AT 795 C
VAPOR DENSITY	NOT APPLICABLE UNDER STANDARD CONDITIONS
EVAPORATION RATE (ETHER=1)	NOT APPLICABLE UNDER STANDARD CONDITIONS

SOLUBILITY:

- SOLUBILITY IN WATER 65.5 G/100ML AT 20 C
- 102 GR/100ML AT 100 C
- SOLUBILITY IN OTHER SOLVENTS ALCOHOL: 0.142 G/1 00G AT 25 C

SPECIFIC GRAVITY 2.75
DECOMPOSITION TEMPERATURE FROM CA. 800 C

10. STABILITY AND REACTIVITY

STABILITY HYGROSCOPIC.
STABLE UNDER NORMAL CONDITIONS
MATERIALS TO AVOID STRONG OXIDANTS
STRONG ACIDS
HEAVY METAL SALTS
REACTS EXPLOSIVELY WITH BROMINE TRIFLUORIDE
CONDITIONS TO AVOID EXPOSURE TO MOISTURE
HEATING ABOVE DECOMPOSITION TEMPERATURE

PRODUCT: POTASSIUM BROMIDE

ORDER NO: 226085

PROD NO : 614395

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/I

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.

PRODUCT: POTASSIUM BROMIDE

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14. TRANSPORTATION INFORMATION

DOT NOT REGULATED
IMO NOT REGULATED
ICAO/IATA NOT REGULATED

15. REGULATORY INFORMATION

USA REPORTED IN THE EPA TSCA INVENTORY

CANADA LISTED IN DSL

EEC NO. 231-830-3
JAPAN LISTED IN MITI (1-108)

AUSTRALIA LISTED IN AICS

CHINA INVENTORY LISTED

SOUTH KOREA LISTED IN ECL (KE-29079)

SWITZERLAND GIFTKLASSE 3
PHILIPPINES LISTED IN PICCS

16. OTHER INFORMATION

THIS DATA SHEET CONTAINS CHANGES FROM THE PREVIOUS VERSION IN SECTION(S)
8,15

THE HSE POLICY OF DEAD SEA BROMINE GROUP

DEAD SEA BROMINE GROUP (DSBG) IS THE WORLD'S LARGEST PRODUCER OF ELEMENTAL
BROMINE AND A RECOGNIZED LEADER IN THE DEVELOPMENT AND SUPPLY OF BROMINE
COMPOUNDS.

DSBG IS COMMITTED TO RESPONSIBLY MANAGE ITS PRODUCTS AT ALL STAGES OF THEIR
LIFE CYCLE IN ORDER TO PROTECT HUMAN HEALTH AND THE ENVIRONMENT.
THIS RESPONSIBILITY APPLIES THROUGHOUT DEVELOPMENT, MANUFACTURE,
TRANSPORTATION, USE, RECYCLE AND DISPOSAL OF DSBG PRODUCTS.

WITHIN THIS FRAMEWORK DSBG IS COMMITTED TO:

- * COMPLY WITH NATIONAL AND INTERNATIONAL REGULATORY REQUIREMENTS
- * CONFORM TO THE ISO 14001 AND OHSAS 18001 REQUIREMENTS FOR ENVIRONMENTAL AND OCCUPATIONAL HEALTH & SAFETY MANAGEMENT SYSTEMS AND PERIODICALLY EVALUATE PERFORMANCE AS PART OF THE COMPANY'S EXISTING QUALITY AUDITS SYSTEM
- * DESIGN PRODUCTS AND PROCESSES WHICH PREVENT RISK TO HEALTH AND THE ENVIRONMENT AT PRODUCTION SITES AND ALONG THE SUPPLY CHAIN
- * IMPROVE EFFICIENCY IN USE OF ENERGY & NATURAL RESOURCES, PROMOTE RECYCLING AND WASTE MANAGEMENT THROUGH SAFE & ENVIRONMENTALLY SOUND END OF LIFE

REPORT NUMBER: 703

UNIVAR USA INC.

PAGE: 007

MSDS NO: P21725VS

MATERIAL SAFETY DATA SHEET

MAINFRAME UPLOAD DATE: 07/16/04

VERSION: 003

PRODUCT: POTASSIUM BROMIDE

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

REPORT NUMBER: 703
MSDS NO: P21725VS
MAINFRAME UPLOAD DATE: 07/16/04

UNIVAR USA INC.
MATERIAL SAFETY DATA SHEET

PAGE: 008
VERSION: 003

PRODUCT: POTASSIUM BROMIDE

ORDER NO: 226085
PROD NO : 614395

----- FOR ADDITIONAL INFORMATION -----

CONTACT: MSDS COORDINATOR UNIVAR USA INC.
DURING BUSINESS HOURS, PACIFIC TIME (425)889-3400

10/28/04 08:52 PRODUCT: 614395 CUST NO: 113365 ORDER NO: 226085

----- NOTICE -----

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PRODUCT SPECIFICATION. FOR PRODUCT SPECIFICATION INFORMATION REFER TO A PRODUCT
SPECIFICATION SHEET AND/OR A CERTIFICATE OF ANALYSIS. THESE CAN BE OBTAINED FROM
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RELATE TO ITS USE IN COMBINATION WITH ANY OTHER MATERIAL OR IN ANY OTHER
PROCESS.

* * * E N D O F M S D S * * *



GARDENA, CA
NEW BRUNSWICK, NJ

Material Safety Data Sheet

NFPA 	HMIS <table border="1"> <tr> <td>Health Hazard</td> <td style="text-align: center;">2</td> </tr> <tr> <td>Fire Hazard</td> <td style="text-align: center;">1</td> </tr> <tr> <td>Reactivity</td> <td style="text-align: center;">0</td> </tr> </table>	Health Hazard	2	Fire Hazard	1	Reactivity	0	Personal Protective Equipment See Section 15.
Health Hazard	2							
Fire Hazard	1							
Reactivity	0							

Section 1. Chemical Product and Company Identification		<i>Page Number: 1</i>
Common Name/ Trade Name	Hydroquinone	Catalog Number(s) H1080, HY113
Manufacturer	SPECTRUM CHEMICAL MFG. CORP. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	CAS# 123-31-9
Commercial Name(s)	Not available.	RTECS MX3500000
Synonym	1,4-Benzenediol	TSCA TSCA 8(b) inventory: Hydroquinone
Chemical Name	1,4-Dihydroxybenzene	CI# Not applicable.
Chemical Family	Aromatic alcohol. (Aromatic.)	IN CASE OF EMERGENCY CHEMTREC (24hr) 800-424-9300 CALL (310) 516-8000
Chemical Formula	C ₆ H ₄ (OH) ₂	
Supplier	SPECTRUM CHEMICAL MFG. CORP. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	

Section 2. Composition and Information on Ingredients					
		<i>Exposure Limits</i>			
Name	CAS #	TWA (mg/m ³)	STEL (mg/m ³)	CEIL (mg/m ³)	% by Weight
1) Hydroquinone	123-31-9	2			100
Toxicological Data on Ingredients	Hydroquinone: ORAL (LD50): Acute: 320 mg/kg [Rat]. DERMAL (LD50): Acute: 5970 mg/kg [Mammal].				

Section 3. Hazards Identification	
Potential Acute Health Effects	Hazardous in case of skin contact (irritant, permeator), of eye contact (irritant), of ingestion, of inhalation.
Potential Chronic Health Effects	CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance is toxic to lungs, the nervous system, mucous membranes. Repeated or prolonged exposure to the substance can produce target organs damage.

Continued on Next Page

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.
Skin Contact	After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.
Serious Skin Contact	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.
Inhalation	Allow the victim to rest in a well ventilated area. Seek immediate medical attention.
Serious Inhalation	Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.
Ingestion	Do not induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.
Serious Ingestion	Not available.

Section 5. Fire and Explosion Data

Flammability of the Product	May be combustible at high temperature.
Auto-Ignition Temperature	515.56°C (960°F)
Flash Points	CLOSED CUP: 165°C (329°F).
Flammable Limits	Not available.
Products of Combustion	These products are carbon oxides (CO, CO ₂).
Fire Hazards in Presence of Various Substances	Slightly flammable to flammable in presence of open flames and sparks.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.
Fire Fighting Media and Instructions	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.
Special Remarks on Fire Hazards	Combustible when exposed to heat or flame.
Special Remarks on Explosion Hazards	Not available.

Section 6. Accidental Release Measures

Small Spill	Use appropriate tools to put the spilled solid in a convenient waste disposal container.
Large Spill	Use a shovel to put the material into a convenient waste disposal container. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Continued on Next Page

Section 7. Handling and Storage

Precautions	Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe dust. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, alkalis.
Storage	Keep container dry. Keep in a cool place. Ground all equipment containing material. Keep container tightly closed. Keep in a cool, well-ventilated place. Combustible materials should be stored away from extreme heat and away from strong oxidizing agents.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Personal Protection	Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Exposure Limits	TWA: 0.4 (ppm) TWA: 2 (mg/m ³)
Consult local authorities for acceptable exposure limits.	

Section 9. Physical and Chemical Properties

Physical state and appearance	Solid. (Crystals solid.)	Odor	Not available.
Molecular Weight	110.11 g/mole	Taste	Not available.
pH (1% soln/water)	7 [Neutral.]	Color	White.
Boiling Point	286°C (546.8°F)		
Melting Point	170°C (338°F)		
Critical Temperature	Not available.		
Specific Gravity	1.33 (Water = 1)		
Vapor Pressure	Not applicable.		
Vapor Density	3.81 (Air = 1)		
Volatility	Not available.		
Odor Threshold	Not available.		
Water/Oil Dist. Coeff.	Not available.		
Ionicity (in Water)	Not available.		
Dispersion Properties	See solubility in water, methanol, diethyl ether.		
Solubility	Soluble in cold water, hot water, methanol, diethyl ether.		

Continued on Next Page

Section 10. Stability and Reactivity Data

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	Not available.
Incompatibility with various substances	Reactive with oxidizing agents, alkalis.
Corrosivity	Non-corrosive in presence of glass.
Special Remarks on Reactivity	Air and light sensitive.
Special Remarks on Corrosivity	Not available.
Polymerization	No.

Section 11. Toxicological Information

Routes of Entry	Dermal contact. Eye contact. Inhalation. Ingestion.
Toxicity to Animals	Acute oral toxicity (LD50): 320 mg/kg [Rat]. Acute dermal toxicity (LD50): 5970 mg/kg [Mammal].
Chronic Effects on Humans	The substance is toxic to lungs, the nervous system, mucous membranes.
Other Toxic Effects on Humans	Hazardous in case of skin contact (irritant, permeator), of ingestion, of inhalation.
Special Remarks on Toxicity to Animals	Not available.
Special Remarks on Chronic Effects on Humans	An allergen.
Special Remarks on other Toxic Effects on Humans	Material is irritating to mucous membranes and upper respiratory tract.

Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	The products of degradation are as toxic as the original product.
Special Remarks on the Products of Biodegradation	Not available.

Continued on Next Page

Section 13. Disposal Considerations

Waste Disposal

Section 14. Transport Information

DOT Classification CLASS 6.1: Poisonous material.

Identification : Hydroquinone : UN2662 PG: III

Special Provisions for Transport Not available.

DOT (Pictograms)



Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations Pennsylvania RTK: Hydroquinone
 Massachusetts RTK: Hydroquinone
 TSCA 8(b) inventory: Hydroquinone
 SARA 302/304/311/312 extremely hazardous substances: Hydroquinone
 SARA 313 toxic chemical notification and release reporting: Hydroquinone
 CERCLA: Hazardous substances.: Hydroquinone

California Proposition 65 Warnings

Other Regulations OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications
 WHMIS (Canada) CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC).
 CLASS D-2A: Material causing other toxic effects (VERY TOXIC).
 DSCL (EEC) R36/38- Irritating to eyes and skin.

HMIS (U.S.A.)

Health Hazard	2
Fire Hazard	1
Reactivity	0
Personal Protection	E

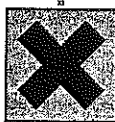
National Fire Protection Association (U.S.A.)

Health Flammability
 Reactivity
 Specific hazard

WHMIS (Canada) (Pictograms)



DSCL (Europe) (Pictograms)



TDG (Canada)
(Pictograms)



ADR (Europe)
(Pictograms)



Protective Equipment



Gloves.



Lab coat.



Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.



Splash goggles.

Section 16. Other Information

MSDS Code H3320

References
 -Hawley, G.G.. The Condensed Chemical Dictionary, 11e ed., New York N.Y., Van Nostrand Reinold, 1987.
 -Material safety data sheet emitted by: la Commission de la Santé et de la Sécurité du Travail du Québec.
 -SAX, N.I. Dangerous Properties of Industrial Materials. Toronto, Van Nostrand Reinold, 6e ed. 1984.
 -The Sigma-Aldrich Library of Chemical Safety Data, Edition II.
 -Guide de la loi et du règlement sur le transport des marchandises dangereuses au Canada. Centre de conformité international Ltée. 1986.

Other Special Considerations Not available.

Validated by Sonia Owen on 1/20/2003.

Verified by Sonia Owen.

Printed 1/21/2003.

CALL (310) 516-8000

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.