

COPPER SULFATE PENTAHYDRATE

P17

REGISTRATION NO: 04-03-90

ROOTROL - HJH# 80-155

HJH CORPORATION  
P.O. BOX 410107  
KCMO 64141

SHIP TO:

17007963  
 MIDLAND METALS  
 ATTN: PURCHASING AGENT  
 DIV HJ HOLDINGS & CO  
 1219 LYDIA AVE  
 KANSAS CITY MO 64106

ORDER NO: 170511364  
 PROJ NO: 04199106

VAN WATERS & ROGERS INC., SUBSIDIARY OF UNIVAR  
 1600 NORTON BLDG. SEATTLE, WA 98104-1564 (408) 435-8700

## --EMERGENCY ASSISTANCE--

FOR EMERGENCY ASSISTANCE INVOLVING CHEMICALS CALL CHEMTRAC, (800) 424-9800

## --FOR PRODUCT AND SALES INFORMATION--

CONTACT YOUR LOCAL VAN WATERS &amp; ROGERS BRANCH OFFICE

## --PRODUCT IDENTIFICATION--

PRODUCT NAME: COPPER SULFATE PENTAHYDRATE CAS NO.: A-7758-99-8  
 B-7758-98-7

COMMON NAMES/SYNONYMS: BLUE VITRIOL; UNIVAR CODE: P1352  
 COPPER SULFATE PENTAHYDRATE; CUPRIC  
 SULFATE PENTAHYDRATE; COPPER SULFATE INSTANT;  
 COPPER SULFATE BASIC; COPPER SULFATE K50 FEED  
 COPPER SULFATE INSTANT PO; COPPER  
 SULFATE CRYSTAL; CUPRIC SULFATE PENTAHYDRATE

FORMULA: A-CMSO<sub>4</sub>.5H<sub>2</sub>O  
 B-CUSO<sub>4</sub>

DATE ISSUED: 03/90

HAZARD RATING (NEPA 704)

SUPERCEDES: 03/90

HEALTH: 3

HAZARD RATING SCALE:

FIRE: 0

0=MINIMAL 3=SERIOUS

REACTIVITY: 0

1=SLIGHT 4=SEVERE

SPECIAL: CORROSIVE

2=MODERATE

## --HAZARDOUS INGREDIENTS--

COMPONENT	%	EXPOSURE LIMITS, MG/M3			HAZARD
		OSHA ADGIIH	PEL	TLV	
COPPER SULFATE PENTAHYDRATE	>99	1	NONE	NONE	TOXIC; CORROSIVE
		(CU)			

MAY CONTAIN IRON, ZINC, AND OTHER TRACE METAL AND MINERAL IMPURITIES

NOTE: A-COPPER SULFATE PENTAHYDRATE  
 B-COPPER SULFATE CRYSTAL

## --PHYSICAL PROPERTIES--

BOILING POINT, DEG F: 1,207(DEC) VAPOR PRESSURE, MM HG/20 DEG C: N/A  
 MELTING POINT, DEG F: 302(DEHYDRATES) VAPOR DENSITY (AIR=1): N/A  
 SPECIFIC GRAVITY (WATER=1): A=2.28 WATER SOLUBILITY, %: 30

B=3.603

APPEARANCE AND ODOR: BLUE EVAPORATION RATE (BUTYL ACETATE=1): N/A  
 CRYSTALLINE POWDER OR CRYSTALS;  
 IRLESS.

## COPPER SULFATE GRAN

REVISED 04-03-90

## FIRST AID MEASURES

IF INHALED: REMOVE TO FRESH AIR. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. GET IMMEDIATE MEDICAL ATTENTION.

IN CASE OF EYE CONTACT: IMMEDIATELY FLUSH EYES WITH LOTS OF RUNNING WATER FOR 15 MINUTES, LIFTING THE UPPER AND LOWER EYELIDS OCCASIONALLY. GET IMMEDIATE MEDICAL ATTENTION.

IN CASE OF SKIN CONTACT: IMMEDIATELY FLUSH SKIN WITH LOTS OF RUNNING WATER FOR 15 MINUTES. REMOVE CONTAMINATED CLOTHING AND SHOES; WASH BEFORE REUSE. GET IMMEDIATE MEDICAL ATTENTION.

IF SWALLOWED: IF CONSCIOUS, IMMEDIATELY INDUCE VOMITING BY GIVING LARGE QUANTITIES OF MILK OR EGG WHITES, OR IF NOT AVAILABLE, WATER, AND STICKING A FINGER DOWN THE THROAT. GET IMMEDIATE MEDICAL ATTENTION. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS OR CONVULSING PERSON.

## HEALTH HAZARD INFORMATION

PRIMARY ROUTES OF EXPOSURE: SKIN OR EYE CONTACT

## SIGNS AND SYMPTOMS OF EXPOSURE

INHALATION: BREATHING DUST OR MISTS MAY IRRITATE THE NOSE, THROAT AND MUCOUS MEMBRANES OF THE RESPIRATORY TRACT AND CAUSE COUGHING AND CHEST DISCOMFORT.

EYE CONTACT: LIQUID AND MISTS MAY SEVERELY IRRITATE OR DAMAGE THE EYES.

SKIN CONTACT: CONTACT WITH THE DUST OR SOLUTIONS MAY IRRITATE THE SKIN.

SWALLOWED: INGESTION OF A LARGE QUANTITY OF COPPER SULFATE HAS CAUSED VOMITING, GASTRIC PAIN, DIZZINESS, EXHAUSTION, ANEMIA, CRAMPS, CONVULSIONS, SHOCK, COMA AND DEATH.

CHRONIC EFFECTS OF EXPOSURE: DAMAGE TO THE NERVOUS SYSTEM AND KIDNEY HAVE BEEN RECORDED, JAUNDICE AND LIVER ENLARGEMENT HAVE ALSO BEEN OBSERVED.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: GASTROINTESTINAL AILMENTS.

## TOXICITY DATA

ORAL: HUMAN LD<sub>50</sub> = 1,083 MG/KG (HYDRATE); HUMAN LD<sub>50</sub> = 50 MG/KG (ANHYDROUS); RAT LD<sub>50</sub> = 300 MG/KG (ANHYDROUS & HYDRATE)

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: THERE HAS BEEN REPORTED AN EXCESS OF CANCER CASES IN THE COPPER SMELTING INDUSTRY.

## PERSONAL PROTECTION

VENTILATION: LOCAL MECHANICAL EXHAUST VENTILATION CAPABLE OF MAINTAINING DUST EMISSIONS AT THE POINT OF USE BELOW THE PEL.

RESPIRATORY PROTECTION: WEAR A NIOSH-APPROVED RESPIRATOR APPROPRIATE FOR THE DUST CONCENTRATION AT THE POINT OF USE. APPROPRIATE RESPIRATORS MAY BE A FULL FACEPIECE OR A HALF MASK AIR-PURIFYING CARTRIDGE RESPIRATOR WITH PARTICULATE FILTERS, A SELF-CONTAINED BREATHING APPARATUS IN THE PRESSURE DEMAND MODE, OR A SUPPLIED-AIR RESPIRATOR.

*Journal of Health Politics, Policy and Law*, Vol. 33, No. 4, December 2008  
DOI 10.1215/03616878-33-4 © 2008 by The University of Chicago

COFFEE MILKSHAKE DRINK

Journal of Health Politics, Policy and Law

EYE PROTECTION: CHECKED BUBBLES UNLESS A FULL FACE SHIELD IS WORN. IT IS GENERALLY RECOGNIZED THAT CONTACT LENSES SHOULD NOT BE USED WHEN WORKING WITH CHEMICALS BECAUSE CONTACT LENSES MAY CONTRIBUTE TO SEVERITY OF AN EYE INJURY.

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

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

## ~~-FIRE AND EXPLOSION INFORMATION~~

FLASH POINT, DEG F: 147<sup>6</sup>

EL检测器在BLF上进行示踪时，若取 $\lambda = 365\text{nm}$ ，则

METHOD USED: N/A

LOWER: 176 UPPER: 176  
MATERIALS: 100% COTTON

~~EXTINGUISHING MEDIA: THIS MATERIAL IS NOT COMBUSTIBLE. USE WATER~~

INAPPROPRIATE MEDIUM FOR EXTINGUISHING SURROUNDING FIRE.

**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.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** EXTINGUISH ALL NEARBY SOURCES OF IGNITION SINCE VAPORS DECOMPOSE TO HAZARDOUS PRODUCTS AT HIGH TEMPERATURES.

## -HAZARDOUS REACTIVITY-

**STABILITY:** STABLE                           **POLYMERIZATION:** WILL NOT OCCUR  
**CONDITIONS TO AVOID:** HIGH TEMPERATURES.

**MATERIALS TO AVOID:** HYDROXYLAMINE, MAGNESIUM, ALUMINUM POWDER,  
ACETYLENE GAS AND MOIST AIR.

**HAZARDOUS DECOMPOSITION PRODUCTS: WILL LIBERATE TOXIC FUMES OF SULFUR DIOXIDE.**

## **SPILL, LEAK, AND DISPOSAL PROCEDURES**

ICT TO TAKE FOR SPILLS OR LEAKS: WEAR PROTECTIVE EQUIPMENT INCLUDING RUBBER BOOTS, RUBBER GLOVES, RUBBER APRON, AND A SELF-CONTAINED BREATHING APPARATUS IN THE PRESSURE DEMAND MODE OR A SUPPLIED-AIR RESPIRATOR. IF THE SPILL OR LEAK IS SMALL, A FULL FACEPIECE ATTEMPTING CARTRIDGE RESPIRATOR EQUIPPED WITH PARTICULATE FILTERS MAY BE SATISFACTORY. IN ANY EVENT, ALWAYS WEAR EYE PROTECTION. FOR SMALL SPILLS, SWEEP UP AND DISPOSE OF IN DOT-APPROVED WASTE CONTAINERS. FOR LARGE SPILLS, SHOVEL INTO DOT-APPROVED WASTE CONTAINERS. KEEP OUT OF EMERGS, STORM DRAINS, SURFACE WATERS, AND SOIL. COMPLY WITH ALL APPLICABLE GOVERNMENTAL REGULATIONS ON SPILL REPORTING, HANDLING AND DISPOSAL OF WASTE.

**DISPOSAL METHODS:** DISPOSE OF CONTAMINATED PRODUCT AND MATERIALS USED IN CLEANING UP SPILLS OR LEAKS IN A MANNER APPROVED FOR THIS MATERIAL. CONSULT APPROPRIATE FEDERAL, STATE AND LOCAL REGULATORY AGENCIES TO DETERMINE PROPER DISPOSAL PROCEDURES.

NOTE: EMPTY CONTAINERS CAN HAVE RESIDUES, GASES AND DUSTS AND ARE SUBJECT TO PROPER WASTE DISPOSAL, AS ABOVE.

-SPECIAL PRECAUTIONS-

**STORAGE AND HANDLING PRECAUTIONS:** STORE IN A COOL, DRY, WELL-VENTILATED PLACE AWAY FROM INCOMPATIBLE MATERIALS. KEEP BAGS OR FIBER DRUMS DRY AT ALL TIMES. WASH THOROUGHLY AFTER HANDLING. DO NOT GET IN EYES, ON SKIN, OR ON CLOTHING.

**SAFETY AND MAINTENANCE PRECAUTIONS:** DO NOT CUT, GRIND, WELD, OR DRILL  
IN OR NEAR THIS CONTAINER.

**SAFETY PRECAUTIONS: CONTAINERS, EVEN THOSE THAT HAVE BEEN EMPTIED, WILL CONTAIN PRODUCT RESIDUE. ALWAYS OBEY HAZARD WARNINGS AND HANDLE EMPTY CONTAINERS AS IF THEY WERE FULL.**

**COPPER SULFATE PENTAHYDRATE**

MSDS FOR THIS PRODUCT

**FOR ADDITIONAL INFORMATION**

CONTACT MSDS COORDINATOR, VAN WATERS & ROGERS INC.,  
DURING BUSINESS HOURS, PACIFIC TIME (408) 935-8700

**OTHER REGULATORY INFORMATION**

DO NOT DETACH THIS SECTION FROM THE MSDS AND BE SURE TO  
INCLUDE THIS SECTION WHEN COPYING THE MSDS.

THIS PRODUCT CONTAINS THE FOLLOWING TOXIC CHEMICAL(S), SUBJECT TO THE  
REPORTING REQUIREMENTS OF SECTION 313 OF TITLE III OF THE SUPERFUND  
AMENDMENTS AND REAUTHORIZATION ACT OF 1986 AND 40 CFR PART 372:

NAME	CAS NO.	%, w/w
COPPER SULFATE	7758-98-7	<99
COPPER SULFATE PENTAHYDRATE	7758-99-8	>99

UNDER THE PENNSYLVANIA RIGHT-TO-KNOW LAW, HAZARDOUS SUBSTANCES AND  
SPECIAL HAZARDOUS SUBSTANCES COMPONENTS PRESENT IN THIS PRODUCT WHICH  
REQUIRE REPORTING ARE:

HAZARDOUS SUBSTANCES CHEMICAL	CAS NO.	CONCENTRATION (>1%)
COPPER SULFATE	7758-98-7	>99

CALIFORNIA SCAMID: NONE

THE COMPONENTS OF THIS PRODUCT ARE ON THE TSCA INVENTORY OF CHEMICAL  
SUBSTANCES.

**NOTICE**

VAN WATERS & ROGERS INC. ("VWR") EXPRESSLY DISCLAIMS ALL EXPRESS  
OR IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR  
PURPOSE, WITH RESPECT TO THE PRODUCT OR INFORMATION PROVIDED HEREIN.\*\*

ALL INFORMATION APPEARING HEREIN IS BASED UPON DATA OBTAINED FROM THE  
MANUFACTURER AND/OR RECOGNIZED TECHNICAL SOURCES. WHILE THE INFORMATION  
IS BELIEVED TO BE ACCURATE, VWR MAKES NO REPRESENTATIONS AS TO  
ITS ACCURACY OR SUFFICIENCY. CONDITIONS OF USE ARE BEYOND VWR'S CON-  
TROL AND THEREFORE USERS ARE RESPONSIBLE TO VERIFY THIS DATA UNDER  
THEIR OWN OPERATING CONDITIONS TO DETERMINE WHETHER THE PRODUCT IS  
SUITABLE FOR THEIR PARTICULAR PURPOSES AND THEY ASSUME ALL RISKS OF  
THEIR USE, HANDLING, AND DISPOSAL OF THE PRODUCT, OR FROM THE PUBLICA-  
TION OR USE OF, OR RELIANCE UPON, INFORMATION CONTAINED HEREIN. THIS  
INFORMATION RELATES ONLY TO THE PRODUCT DESIGNATED HEREIN, AND DOES NOT  
RELATE TO ITS USE IN COMBINATION WITH ANY OTHER MATERIAL OR IN ANY OTHER  
PROCESS.

**REVISION**

03/90: ADDED SYNONYM.

REVISED OTHER REGULATORY INFORMATION.

\*\*\*\* END OF MSDS \*\*\*\*