



\*\*AMMONIUM DICHROMATE\*\*  
\*\*AMMONIUM DICHROMATE\*\*  
\*\*AMMONIUM DICHROMATE\*\*  
\*\*AMMONIUM DICHROMATE\*\*

MATERIAL SAFETY DATA SHEET

FISHER SCIENTIFIC  
CHEMICAL DIVISION  
1 REAGENT LANE  
FAIR LAWN NJ 07410  
(201) 796-7100

EMERGENCY CONTACTS  
GASTON L. PILLORI  
(201) 796-7100

DATE 06/02/87  
PO NBR: ##4394795 442  
ACCT: 818725-99  
INDEX: 25871520052  
CAT NO: A644500

THE INFORMATION BELOW IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. HOWEVER, WE MAKE NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO SUCH INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION FOR THEIR PARTICULAR PURPOSES.

SUBSTANCE IDENTIFICATION

CAS-NUMBER 7789-09-5

SUBSTANCE: \*\*AMMONIUM DICHROMATE\*\*

TRADE NAMES/SYNONYMS:  
DICHROMIC ACID, DIAMMONIUM SALT; AMMONIUM BICHROMATE;  
AMMONIUM DICHROMATE(IV); CHROMIC ACID, DIAMMONIUM SALT;  
DIAMMONIUM DICHROMATE; A-644; ACC01210

CHEMICAL FAMILY:  
INORGANIC SALT

MOLECULAR FORMULA: CR-H8-N2-07 MOL WT: 252.10

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

COMPONENTS AND CONTAMINANTS

COMPONENT: AMMONIUM DICHROMATE PERCENT: 99.8

EXPOSURE LIMITS:

0.1 MG(CR)/M3 OSHA TWA; 50 UG(CR)/M3 ACGIH TWA;  
25 UG(CR)/M3 NIOSH RECOMMENDED TWA; 50 UG(CR)/M3 NIOSH RECOMMENDED 15 MINUTE  
CEILING

PHYSICAL DATA

DESCRIPTION: ODORLESS, YELLOW TO ORANGE-RED CRYSTALS  
MELTING POINT: 356 F (180 C) DEC SPECIFIC GRAVITY: 2.2 @ 25 C

PH: 3.5 (10% SOLN) SOLUBILITY IN WATER: 30.8%

SOLVENT SOLUBILITY: ALCOHOL

FIRE AND EXPLOSION DATA

FIRE AND EXPLOSION HAZARD:

SLIGHT TO MODERATE FIRE HAZARD WHEN EXPOSED TO HEAT OR FLAME.

STRONG OXIDIZER; MAY REACT VIOLENTLY OR EXPLODE IN CONTACT WITH COMBUSTIBLE OR REDUCING MATERIALS OR WHEN HEATED ABOVE 225 C.

FLASH POINT: NONCOMBUSTIBLE

FIREFIGHTING MEDIA:

DRY CHEMICAL OR CARBON DIOXIDE  
(1984 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.3).

FOR LARGER FIRES, FLOOD AREA WITH WATER FROM A DISTANCE  
(1984 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.3).

FIREFIGHTING:

DO NOT GET SOLID STREAM OF WATER ON SPILLED MATERIAL. MOVE CONTAINERS FROM FIRE AREA IF POSSIBLE. COOL CONTAINERS EXPOSED TO FLAMES WITH WATER FROM SIDE UNTIL WELL AFTER FIRE IS OUT (1984 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.3, GUIDE PAGE 39).

FLOOD AREA WITH WATER. AVOID BREATHING TOXIC VAPORS OR DUSTS.

TOXICITY

MUTAGENIC DATA (RIECS): CARCINOGEN STATUS: NONE. AN INCREASED AMOUNT OF LUNG CANCER HAS BEEN FOUND IN EMPLOYEES IN THE CHROMATE-PRODUCING INDUSTRY. CONTAINS HEXAVALENT CHROMIUM. THIS IS A CANCER HAZARD, BASED ON TESTS WITH LABORATORY ANIMALS. OVER EXPOSURE MAY CREATE CANCER RISK.  
CHROMATES ARE SEVERE PULMONARY AND SKIN IRRITANTS AND SKIN SENSITIZERS.

HEALTH EFFECTS AND FIRST AID

INHALATION:

CORROSIVE. 30 MG(CR)/M3 IS IMMEDIATELY DANGEROUS TO LIFE AND HEALTH.

ACUTE EXPOSURE- EXPOSURE TO HIGH LEVELS OF CHROMATES PRODUCES SEVERE IRRITATION OF NOSE, THROAT, AND RESPIRATORY TRACT.

CHRONIC EXPOSURE- EXPOSURE TO CHROMATES IN CONCENTRATIONS OF 0.11-0.15 MG/M3 IN AIR PRODUCES BLEEDING AND PAINLESS ULCERATION OF THE NASAL SEPTUM WITH A FOUL NASAL DISCHARGE AND BRONCHITIS. LIVER DAMAGE WITH JAUNDICE HAS BEEN REPORTED. SEE CANCER HAZARD WARNING, TOXICITY SECTION.

FIRST AID- REMOVE FROM EXPOSURE AREA TO FRESH AIR IMMEDIATELY. IF BREATHING HAS STOPPED, PERFORM ARTIFICIAL RESPIRATION. KEEP PERSON WARM AND AT REST. GET MEDICAL ATTENTION IMMEDIATELY.

SKIN CONTACT:

CORROSIVE/SENSITIZER.

ACUTE EXPOSURE- HIGH CONCENTRATIONS MAY CAUSE REDNESS, PAIN AND ULCERATION.

CHRONIC EXPOSURE- PROLONGED CONTACT WITH CHROMATES AT LOW CONCENTRATIONS MAY CAUSE A SKIN RASH, SENSITIZATION DERMATITIS WITH ECZEMA, AND PAINLESS ULCERATION OF THE SKIN THAT HEALS SLOWLY AND LEAVES DEPRESSED SCARS.

FIRST AID- REMOVE CONTAMINATED CLOTHING AND SHOES IMMEDIATELY. WASH AFFECTED AREA WITH SOAP OR MILD DETERGENT AND LARGE AMOUNTS OF WATER UNTIL NO EVIDENCE OF CHEMICAL REMAINS (APPROXIMATELY 15-20 MINUTES). GET MEDICAL ATTENTION.

EYE CONTACT:  
CORROSIVE.

ACUTE EXPOSURE- DIRECT CONTACT WITH SOLID CHROMATES OR CONCENTRATED CHROMATE SOLUTIONS BY SPLASH IN THE EYE MAY CAUSE SEVERE, PERMANENT CORNEAL INJURY. MORE COMMONLY, EXPOSURE IS CAUSED BY A FINE SPRAY OR MIST WHICH MAY CAUSE IRRITATION AND PAIN.

CHRONIC EXPOSURE- PROLONGED CONTACT OF FINE SPRAY MAY CAUSE CONJUNCTIVITIS AND LACRIMATION. IN SOME CASES, A BROWN DISCOLORATION MAY OCCUR.

FIRST AID- WASH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER, OCCASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL REMAINS (APPROXIMATELY 15-20 MINUTES). GET MEDICAL ATTENTION.

INGESTION:  
CORROSIVE.

ACUTE EXPOSURE- HIGH CONCENTRATIONS MAY CAUSE DIZZINESS, INTENSE THIRST, ABDOMINAL PAIN, VOMITING, SHOCK, OLIGURIA, ANURIA, SEVERE CIRCULATORY COLLAPSE, AND DEATH DUE TO UREMIA.

FIRST AID- IF VICTIM IS CONSCIOUS, IMMEDIATELY GIVE 2 TO 4 GLASSES OF WATER, AND INDUCE VOMITING BY TOUCHING FINGER TO BACK OF THROAT. GET MEDICAL ATTENTION IMMEDIATELY.

ANTIDOTE:  
NO SPECIFIC ANTIDOTE. TREAT SYMPTOMATICALLY AND SUPPORTIVELY.

-----  
REACTIVITY

REACTIVITY:  
DECOMPOSES AS 256 F, BECOMING SELF-SUSTAINING AT 427 F WITH SWELLING AND RELEASE OF HEAT.

INCOMPATIBILITIES:  
IGNITION CAN OCCUR WITH COMBUSTIBLE AND EASILY OXIDIZABLE MATERIALS SUCH AS WOOD SHAVINGS, CARBIDE, MERCURY CYANIDE, HYDRAZINE AND THE HYDRATES, HYDROXYL AMINE AND THE SALTS.

DECOMPOSITION:  
THERMAL DECOMPOSITION, WHICH IS SELF-SUSTAINING ABOVE 225 C, RELEASES IRRITATING CHROMIC TRIOXIDE SMOKE AND NITROGEN.

POLYMERIZATION:  
NONE KNOWN.

\*\*\*\*\*  
\*\*AMMONIUM DICHROMATE\*\*  
\*\*\*\*\*  
PAGE 04 OF 05  
\*\*\*\*\*  
CONDITIONS TO AVOID

MAY IGNITE OTHER COMBUSTIBLE MATERIALS (WOOD, PAPER, OIL, ETC.). REACTION WITH FUELS MAY BE VIOLENT. RUNOFF TO SEWER MAY CREATE FIRE OR EXPLOSION HAZARD.

CONSULT NFPA PUBLICATION 43A, STORAGE OF LIQUID AND SOLID OXIDIZING MATERIALS, FOR STORAGE REQUIREMENTS.

\*\*\*\*\*  
SPILL AND LEAK PROCEDURES  
\*\*\*\*\*

SOIL SPILL:  
DIG A HOLDING AREA SUCH AS PIT, POND OR LAGOON TO CONTAIN SPILLED MATERIAL. USE PROTECTIVE COVER SUCH AS A PLASTIC SHEET TO PREVENT DISSOLVING IN FIRE-FIGHTING WATER OR RAIN.

WATER SPILL:  
ADD SODIUM BISULFITE.

NEUTRALIZE WITH AGRICULTURAL LIME, SLAKED LIME, CRUSHED LIMESTONE OR SODIUM BICARBONATE.

USE MECHANICAL DREDGES OR LIFTS TO EXTRACT IMMOBILIZED MASSES OF POLLUTION AND PRECIPITATES.

OCCUPATIONAL SPILL:  
KEEP COMBUSTIBLES (WOOD, PAPER, OIL, ETC) AWAY FROM SPILLED MATERIAL. DO NOT TOUCH SPILLED MATERIAL. FOR SMALL DRY SPILLS, WITH CLEAN SHOVEL PLACE MATERIAL INTO CLEAN, DRY CONTAINER AND COVER; MOVE CONTAINERS FROM SPILL AREA. FOR SMALL LIQUID SPILLS, TAKE UP WITH SAND, EARTH OR OTHER ABSORBENT MATERIAL AND PLACE INTO CONTAINERS FOR LATER DISPOSAL. FOR LARGER SPILLS, DIKE FAR AHEAD OF SPILL FOR LATER DISPOSAL. KEEP UNNECESSARY PEOPLE AWAY. ISOLATE HAZARD AREA AND DENY ENTRY.

-----  
PROTECTIVE EQUIPMENT

VENTILATION:  
PROVIDE LOCAL EXHAUST OR PROCESS ENCLOSURE VENTILATION TO MEET PUBLISHED EXPOSURE LIMITS.

RESPIRATOR:  
5 MG(CR)/M3- HIGH-EFFICIENCY PARTICULATE RESPIRATOR WITH A FULL FACEPIECE. SUPPLIED-AIR RESPIRATOR WITH A FULL FACEPIECE, HELMET, OR HOOD.  
SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE.

30 MG(CR)/M3- POWERED AIR-PURIFYING RESPIRATOR WITH AN ORGANIC VAPOR CARTRIDGE AND A HIGH-EFFICIENCY PARTICULATE FILTER WITH A FULL FACEPIECE.  
TYPE C SUPPLIED-AIR RESPIRATOR WITH A FULL FACEPIECE OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE, OR WITH A FULL FACEPIECE, HELMET, OR HOOD OPERATED IN CONTINUOUS-FLOW MODE.

\*\*AMMONIUM DICHROMATE\*\*  
PAGE 05 OF 05  
ESCAPE- HIGH-EFFICIENCY PARTICULATE RESPIRATOR.  
SELF-CONTAINED BREATHING APPARATUS.

FIREFIGHTING- SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE  
OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE.

CLOTHING:  
EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE (IMPERVIOUS) CLOTHING AND EQUIPMENT  
TO PREVENT ANY POSSIBILITY OF 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 AND A  
FACESHIELD TO PREVENT CONTACT WITH THIS SUBSTANCE.

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

AUTHORIZED - FISHER SCIENTIFIC GROUP, INC.  
CREATION DATE: 02/27/85 REVISION DATE: 04/26/85

-ADDITIONAL INFORMATION-  
THE INFORMATION BELOW IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST  
INFORMATION CURRENTLY AVAILABLE TO US. HOWEVER, WE MAKE NO WARRANTY OF  
MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO  
SUCH INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE. USERS  
SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE  
INFORMATION FOR THEIR PARTICULAR PURPOSES.