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SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #: 37421

NAME: Ammonium dichromate

SYNONYMS: Ammonium bichromate

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SECTION 2. HAZARDS IDENTIFICATION

CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

GHS CLASSIFICATION IN ACCORDANCE WITH 29 CFR 1910 (OSHA HCS)

OXIDIZING SOLIDS (CATEGORY 2), H272
ACUTE TOXICITY, ORAL (CATEGORY 3), H301
ACUTE TOXICITY, INHALATION (CATEGORY 2), H330
ACUTE TOXICITY, DERMAL (CATEGORY 4), H312
SKIN CORROSION (CATEGORY 1B), H314
SERIOUS EYE DAMAGE (CATEGORY 1), H318
RESPIRATORY SENSITISATION (CATEGORY 1), H334
SKIN SENSITISATION (CATEGORY 1), H317
GERM CELL MUTAGENICITY (CATEGORY 1B), H340
CARCINOGENICITY (CATEGORY 1B), H350
REPRODUCTIVE TOXICITY (CATEGORY 1B), H360
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE (CATEGORY 1), H372

SHORT-TERM (ACUTE) AQUATIC HAZARD (CATEGORY 1), H400
LONG-TERM (CHRONIC) AQUATIC HAZARD (CATEGORY 1), H410

FOR THE FULL TEXT OF THE H-STATEMENTS MENTIONED IN THIS SECTION, SEE SECTION 16.

**GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS
PICTOGRAM**



SIGNAL WORD DANGER

HAZARD STATEMENT(S)

| | |
|------|----------------------------------------------------------------------------|
| H272 | MAY INTENSIFY FIRE; OXIDISER. |
| H301 | TOXIC IF SWALLOWED. |
| H312 | HARMFUL IN CONTACT WITH SKIN. |
| H314 | CAUSES SEVERE SKIN BURNS AND EYE DAMAGE. |
| H317 | MAY CAUSE AN ALLERGIC SKIN REACTION. |
| H330 | FATAL IF INHALED. |
| H334 | MAY CAUSE ALLERGY OR ASTHMA SYMPTOMS OR BREATHING DIFFICULTIES IF INHALED. |
| H340 | MAY CAUSE GENETIC DEFECTS. |
| H350 | MAY CAUSE CANCER. |
| H360 | MAY DAMAGE FERTILITY OR THE UNBORN CHILD. |
| H372 | CAUSES DAMAGE TO ORGANS THROUGH PROLONGED OR REPEATED EXPOSURE. |
| H410 | VERY TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS. |

PRECAUTIONARY STATEMENT(S)

| | |
|--------------------|-----------------------------------------------------------------------------------------------------|
| P201 | OBTAIN SPECIAL INSTRUCTIONS BEFORE USE. |
| P202 | DO NOT HANDLE UNTIL ALL SAFETY PRECAUTIONS HAVE BEEN READ AND UNDERSTOOD. |
| P210 | KEEP AWAY FROM HEAT. |
| P220 | KEEP/STORE AWAY FROM CLOTHING/ COMBUSTIBLE MATERIALS. |
| P221 | TAKE ANY PRECAUTION TO AVOID MIXING WITH COMBUSTIBLES. |
| P260 | DO NOT BREATHE DUST/ FUME/ GAS/ MIST/ VAPOURS/ SPRAY. |
| P264 | WASH SKIN THOROUGHLY AFTER HANDLING. |
| P270 | DO NOT EAT, DRINK OR SMOKE WHEN USING THIS PRODUCT. |
| P271 | USE ONLY OUTDOORS OR IN A WELL-VENTILATED AREA. |
| P272 | CONTAMINATED WORK CLOTHING SHOULD NOT BE ALLOWED OUT OF THE WORKPLACE. |
| P273 | AVOID RELEASE TO THE ENVIRONMENT. |
| P280 | WEAR PROTECTIVE GLOVES/ PROTECTIVE CLOTHING/ EYE PROTECTION/ FACE PROTECTION. |
| P284 | WEAR RESPIRATORY PROTECTION. |
| P301 + P310 + P330 | IF SWALLOWED: IMMEDIATELY CALL A POISON CENTER OR DOCTOR/PHYSICIAN. RINSE MOUTH. |
| P301 + P330 + P331 | IF SWALLOWED: RINSE MOUTH. DO NOT INDUCE VOMITING. |
| P303 + P361 + P353 | IF ON SKIN (OR HAIR): TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING. RINSE SKIN WITH WATER/SHOWER. |

| | |
|----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| P304 + P340 + P310 | IF INHALED: REMOVE PERSON TO FRESH AIR AND KEEP COMFORTABLE FOR BREATHING. IMMEDIATELY CALL A POISON CENTER OR DOCTOR/ PHYSICIAN. |
| P305 + P351 + P338 + P310 | IF IN EYES: RINSE CAUTIOUSLY WITH WATER FOR SEVERAL MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO. CONTINUE RINSING. IMMEDIATELY CALL A POISON CENTER OR DOCTOR/ PHYSICIAN. |
| P308 + P313 | IF EXPOSED OR CONCERNED: GET MEDICAL ADVICE/ ATTENTION. |
| P333 + P313 | IF SKIN IRRITATION OR RASH OCCURS: GET MEDICAL ADVICE/ ATTENTION. |
| P363 | WASH CONTAMINATED CLOTHING BEFORE REUSE. |
| P370 + P378 | IN CASE OF FIRE: USE DRY SAND, DRY CHEMICAL OR ALCOHOL-RESISTANT FOAM TO EXTINGUISH. |
| P391 | COLLECT SPILLAGE. |
| P403 + P233 | STORE IN A WELL-VENTILATED PLACE. KEEP CONTAINER TIGHTLY CLOSED. |
| P405 | STORE LOCKED UP. |
| P501 | DISPOSE OF CONTENTS/ CONTAINER TO AN APPROVED WASTE DISPOSAL PLANT. |
| HAZARDS NOT OTHERWISE CLASSIFIED (HNOC) OR NOT COVERED BY GHS | NONE |

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---------|----------------------------------------------------------------|
| MF: | (NH ₄) ₂ Cr ₂ O ₇ |
| MW: | 252.07 |
| CAS-NO. | 7789-09-5 |
| PURITY: | ≥ 99% (Assay) |

HAZARDOUS COMPONENTS

| COMPONENT | CLASSIFICATION | CONCENTRATION |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Ammonium dichromate | OX. SOL. 2; ACUTE TOX. 3; ACUTE TOX. 2; ACUTE TOX. 4; SKIN CORR. 1B; EYE DAM. 1; RESP. SENS. 1; SKIN SENS. 1; MUTA. 1B; CARC. 1B; REPR. 1B; STOT RE 1; AQUATIC ACUTE 1; AQUATIC CHRONIC 1; H272, H301, H330, H312, H314, H318, H334, H317, H340, H350, H360, H372, H400, H410 M-FACTOR - AQUATIC ACUTE: 10 M-FACTOR - AQUATIC CHRONIC: 10 | <= 100 % |

FOR THE FULL TEXT OF THE H-STATEMENTS MENTIONED IN THIS SECTION, SEE SECTION 16.

SECTION 4. FIRST-AID MEASURES

DESCRIPTION OF FIRST AID MEASURES

| | |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| GENERAL ADVICE | CONSULT A PHYSICIAN. SHOW THIS SAFETY DATA SHEET TO THE DOCTOR IN ATTENDANCE.MOVE OUT OF DANGEROUS AREA. |
| IF INHALED | IF BREATHED IN, MOVE PERSON INTO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. CONSULT A PHYSICIAN. |
| IN CASE OF SKIN CONTACT | TAKE OFF CONTAMINATED CLOTHING AND SHOES IMMEDIATELY. WASH OFF WITH SOAP AND PLENTY OF WATER. TAKE VICTIM IMMEDIATELY TO HOSPITAL. CONSULT A PHYSICIAN. |
| IN CASE OF EYE CONTACT | RINSE THOROUGHLY WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES AND CONSULT A PHYSICIAN.CONTINUE RINSING EYES DURING TRANSPORT TO HOSPITAL. |
| IF SWALLOWED | DO NOT INDUCE VOMITING. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. RINSE MOUTH WITH WATER. CONSULT A PHYSICIAN. |
| MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED | THE MOST IMPORTANT KNOWN SYMPTOMS AND EFFECTS ARE DESCRIBED IN THE LABELLING (SEE SECTION 2.2) AND/OR IN SECTION 11. |
| INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED | NO DATA AVAILABLE |

SECTION 5. FIRE AND EXPLOSION DATA

EXTINGUISHING MEDIA

| | |
|--------------------------------------------------------------|------------------------------------------------------------------------|
| SUITABLE EXTINGUISHING MEDIA | DRY POWDER DRY SAND |
| SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE | NITROGEN OXIDES (NOX), CHROMIUM OXIDES |
| ADVICE FOR FIREFIGHTERS | WEAR SELF-CONTAINED BREATHING APPARATUS FOR FIREFIGHTING IF NECESSARY. |
| FURTHER INFORMATION | USE WATER SPRAY TO COOL UNOPENED CONTAINERS. |

SECTION 6. ACCIDENTAL RELEASE MEASURES

| | |
|----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES | <p>WEAR RESPIRATORY PROTECTION. AVOID DUST FORMATION. AVOID BREATHING VAPOURS, MIST OR GAS. ENSURE ADEQUATE VENTILATION. EVACUATE PERSONNEL TO SAFE AREAS. AVOID BREATHING DUST.</p> <p>FOR PERSONAL PROTECTION SEE SECTION 8.</p> |
| ENVIRONMENTAL PRECAUTIONS | <p>PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE TO DO SO. DO NOT LET PRODUCT ENTER DRAINS. DISCHARGE INTO THE ENVIRONMENT MUST BE AVOIDED.</p> |
| METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP | <p>SWEEP UP AND SHOVEL. CONTAIN SPILLAGE, AND THEN COLLECT WITH AN ELECTRICALLY PROTECTED VACUUM CLEANER OR BY WET- BRUSHING AND PLACE IN CONTAINER FOR DISPOSAL ACCORDING TO LOCAL REGULATIONS (SEE SECTION 13). KEEP IN SUITABLE, CLOSED CONTAINERS FOR DISPOSAL.</p> |
| REFERENCE TO OTHER SECTIONS | <p>FOR DISPOSAL SEE SECTION 13.</p> |

SECTION 7. HANDLING AND STORAGE

| | |
|---------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PRECAUTIONS FOR SAFE HANDLING | <p>AVOID CONTACT WITH SKIN AND EYES. AVOID FORMATION OF DUST AND AEROSOLS.FURTHER PROCESSING OF SOLID MATERIALS MAY RESULT IN THE FORMATION OF COMBUSTIBLE DUSTS. THE POTENTIAL FOR COMBUSTIBLE DUST FORMATION SHOULD BE TAKEN INTO CONSIDERATION BEFORE ADDITIONAL PROCESSING OCCURS.</p> <p>PROVIDE APPROPRIATE EXHAUST VENTILATION AT PLACES WHERE DUST IS FORMED.KEEP AWAY FROM SOURCES OF IGNITION - NO SMOKING.KEEP AWAY FROM HEAT AND SOURCES OF IGNITION.</p> <p>FOR PRECAUTIONS SEE SECTION 2.2.</p> |
| CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES | <p>KEEP CONTAINER TIGHTLY CLOSED IN A DRY AND WELL-VENTILATED PLACE.</p> <p>DO NOT GRIND OR SUBJECT TO FRICTION OR SHOCK. ISOLATED STORAGE IS REQUIRED.</p> <p>Store at RT</p> |
| SPECIFIC END USE(S) | <p>APART FROM THE USES MENTIONED IN SECTION 1.2 NO OTHER SPECIFIC USES ARE STIPULATED</p> |

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CONTROL PARAMETERS

COMPONENTS WITH WORKPLACE CONTROL PARAMETERS

| COMPONENT | CAS-NO. | VALUE | CONTROL PARAMETERS | BASIS |
|---------------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------------------------------------------------------|
| | REMARKS | SEE TABLE Z-2 FOR THE EXPOSURE LIMIT FOR ANY OPERATIONS OR SECTORS WHERE THE EXPOSURE LIMIT IN 1910.1026 IS STAYED OR IS OTHERWISE NOT IN EFFECT SUBSTANCE LISTED; FOR MORE INFORMATION SEE OSHA DOCUMENT 1910.1026 | | |
| Ammonium dichromate | 7789-09-5 | CEIL | 1MG/10M3 | USA. OCCUPATIONAL EXPOSURE LIMITS (OSHA) - TABLE Z-2 |
| | | Z37.7-1971 THIS STANDARD APPLIES TO ANY OPERATIONS OR SECTORS FOR WHICH THE EXPOSURE LIMIT IN THE CHROMIUM (VI) STANDARD, SEC. 1910.1026, IS STAYED OR IS OTHERWISE NOT IN EFFECT. | | |
| | | TWA | 0.0002 MG/M3 | USA. ACGIH THRESHOLD LIMIT VALUES (TLV) |
| | | DERMAL SENSITIZATION RESPIRATORY SENSITIZATION RESPIRATORY TRACT IRRITATION SINONASAL CANCER LUNG CANCER ASTHMA 2018 ADOPTION CONFIRMED HUMAN CARCINOGEN DANGER OF CUTANEOUS ABSORPTION VARIES | | |
| | | STEL | 0.0005 MG/M3 | USA. ACGIH THRESHOLD LIMIT VALUES (TLV) |
| | | DERMAL SENSITIZATION RESPIRATORY SENSITIZATION RESPIRATORY TRACT IRRITATION SINONASAL CANCER LUNG CANCER ASTHMA 2018 ADOPTION CONFIRMED HUMAN CARCINOGEN DANGER OF CUTANEOUS ABSORPTION VARIES | | |
| | | PEL | 0.005 MG/M3 | OSHA SPECIFICALLY REGULATED CHEMICALS/CARCINOGENS |

| | | | | | |
|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------------------------------------------------------------|--|
| | | 1910.1026 THIS STANDARD APPLIES TO OCCUPATIONAL EXPOSURES TO CHROMIUM (VI) IN ALL FORMS AND COMPOUNDS IN GENERAL INDUSTRY, EXCEPT: (A) EXPOSURES THAT OCCUR IN THE APPLICATION OF PESTICIDES REGULATED BY THE ENVIRONMENTAL PROTECTION AGENCY OR ANOTHER FEDERAL GOVERNMENT AGENCY (E.G., THE TREATMENT OF WOOD WITH PRESERVATIVES); (B) EXPOSURES TO PORTLAND CEMENT; OR (C) WHERE THE EMPLOYER HAS OBJECTIVE DATA DEMONSTRATING THAT A MATERIAL CONTAINING CHROMIUM OR A SPECIFIC PROCESS, OPERATION, OR ACTIVITY INVOLVING CHROMIUM CANNOT RELEASE DUSTS, FUMES, OR MISTS OF CHROMIUM (VI) IN CONCENTRATIONS AT OR ABOVE 0.5 GM/M3 AS AN 8-HOUR TIME-WEIGHTED AVERAGE (TWA) UNDER ANY EXPECTED CONDITIONS OF USE. CHROMIUM (VI) [HEXAVALENT CHROMIUM OR CR(VI)] MEANS CHROMIUM WITH A VALENCE OF POSITIVE SIX, IN ANY FORM AND IN ANY COMPOUND OSHA SPECIFICALLY REGULATED CARCINOGEN | | | |
| | | TWA | 0.0002 MG/M3 | USA. NIOSH RECOMMENDED EXPOSURE LIMITS | |
| | | POTENTIAL OCCUPATIONAL CARCINOGEN SEE APPENDIX C SEE APPENDIX A | | | |
| | | PEL | 0.005 MG/M3 | CALIFORNIA PERMISSIBLE EXPOSURE LIMITS FOR CHEMICAL CONTAMINANTS | |
| | | SEE SECTIONS 1532.2, 5206 & 8359 | | | |
| | | C | 0.1 MG/M3 | CALIFORNIA PERMISSIBLE EXPOSURE LIMITS FOR CHEMICAL CONTAMINANTS | |
| | | SEE SECTIONS 1532.2, 5206 & 8359 | | | |

BIOLOGICAL OCCUPATIONAL EXPOSURE LIMITS

| COMPONENT | CAS-NO. | PARAMETERS | VALUE | BIOLOGICAL SPECIMEN | BASIS |
|---------------------|-----------|---------------------------------|--------|---------------------|-------------------------------------------|
| Ammonium dichromate | 7789-09-5 | TOTAL CHROMIUM | 25 G/L | URINE | ACGIH - BIOLOGICAL EXPOSURE INDICES (BEI) |
| | REMARKS | END OF SHIFT AT END OF WORKWEEK | | | |
| | | TOTAL CHROMIUM | 10 G/L | URINE | ACGIH - BIOLOGICAL EXPOSURE INDICES (BEI) |
| | | INCREASE DURING SHIFT | | | |

EXPOSURE CONTROLS

APPROPRIATE
ENGINEERING
CONTROLS

AVOID CONTACT WITH SKIN, EYES AND CLOTHING. WASH HANDS BEFORE BREAKS AND IMMEDIATELY AFTER HANDLING THE PRODUCT.

PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION

FACE SHIELD AND SAFETY GLASSES USE EQUIPMENT FOR EYE PROTECTION TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR EN 166(EU).

| | |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SKIN PROTECTION | <p>HANDLE WITH GLOVES. GLOVES MUST BE INSPECTED PRIOR TO USE. USE PROPER GLOVE REMOVAL TECHNIQUE (WITHOUT TOUCHING GLOVE'S OUTER SURFACE) TO AVOID SKIN CONTACT WITH THIS PRODUCT. DISPOSE OF CONTAMINATED GLOVES AFTER USE IN ACCORDANCE WITH APPLICABLE LAWS AND GOOD LABORATORY PRACTICES. WASH AND DRY HANDS.</p> <p>FULL CONTACT MATERIAL: NITRILE RUBBER MINIMUM LAYER THICKNESS: 0.11 MM BREAK THROUGH TIME: 480 MIN MATERIAL TESTED:DERMATRIL (KCL 740 , SIZE M)</p> <p>SPLASH CONTACT MATERIAL: NITRILE RUBBER MINIMUM LAYER THICKNESS: 0.11 MM BREAK THROUGH TIME: 480 MIN MATERIAL TESTED:DERMATRIL (KCL 740 , SIZE M)</p> <p>IF USED IN SOLUTION, OR MIXED WITH OTHER SUBSTANCES, AND UNDER CONDITIONS WHICH DIFFER FROM EN 374, CONTACT THE SUPPLIER OF THE CE APPROVED GLOVES. THIS RECOMMENDATION IS ADVISORY ONLY AND MUST BE EVALUATED BY AN INDUSTRIAL HYGIENIST AND SAFETY OFFICER FAMILIAR WITH THE SPECIFIC SITUATION OF ANTICIPATED USE BY OUR CUSTOMERS. IT SHOULD NOT BE CONSTRUED AS OFFERING AN APPROVAL FOR ANY SPECIFIC USE SCENARIO.</p> |
| BODY PROTECTION | <p>COMPLETE SUIT PROTECTING AGAINST CHEMICALS, THE TYPE OF PROTECTIVE EQUIPMENT MUST BE SELECTED ACCORDING TO THE CONCENTRATION AND AMOUNT OF THE DANGEROUS SUBSTANCE AT THE SPECIFIC WORKPLACE.</p> |
| RESPIRATORY PROTECTION | <p>WHERE RISK ASSESSMENT SHOWS AIR-PURIFYING RESPIRATORS ARE APPROPRIATE USE A FULL-FACE PARTICLE RESPIRATOR TYPE N100 (US) OR TYPE P3 (EN 143) RESPIRATOR CARTRIDGES AS A BACKUP TO ENGINEERING CONTROLS. IF THE RESPIRATOR IS THE SOLE MEANS OF PROTECTION, USE A FULL-FACE SUPPLIED AIR RESPIRATOR. USE RESPIRATORS AND COMPONENTS TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR CEN (EU).</p> |
| CONTROL OF ENVIRONMENTAL EXPOSURE | <p>PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE TO DO SO. DO NOT LET PRODUCT ENTER DRAINS. DISCHARGE INTO THE ENVIRONMENT MUST BE AVOIDED.</p> |

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

| | |
|------------------------------|--------------------------------|
| APPEARANCE | Orange to dark orange crystals |
| ODOUR | NO DATA AVAILABLE |
| ODOUR THRESHOLD | NO DATA AVAILABLE |
| PH | 3.0 - 4.0 AT 50 G/L AT 25 C |
| MELTING POINT/FREEZING POINT | 185 °C (dec.) (Approx.) |
| BOILING POINT | |
| FLASH POINT | |

| | |
|----------------------------------------------|--------------------------------------------------------------------------|
| EVAPORATION RATE | NO DATA AVAILABLE |
| FLAMMABILITY (SOLID, GAS) | NO DATA AVAILABLE |
| UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS | NO DATA AVAILABLE |
| VAPOUR PRESSURE | NO DATA AVAILABLE |
| VAPOUR DENSITY | NO DATA AVAILABLE |
| RELATIVE DENSITY | |
| WATER SOLUBILITY | NO DATA AVAILABLE |
| PARTITION COEFFICIENT: N- OCTANOL/WATER | NO DATA AVAILABLE |
| AUTO-IGNITION TEMPERATURE | NO DATA AVAILABLE |
| DECOMPOSITION TEMPERATURE | NO DATA AVAILABLE |
| VISCOSITY | NO DATA AVAILABLE |
| EXPLOSIVE PROPERTIES | NO DATA AVAILABLE |
| OXIDIZING PROPERTIES | THE SUBSTANCE OR MIXTURE IS CLASSIFIED AS OXIDIZING WITH THE CATEGORY 2. |
| OTHER SAFETY INFORMATION | NO DATA AVAILABLE |

SECTION 10. STABILITY AND REACTIVITY

| | |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| REACTIVITY | NO DATA AVAILABLE |
| CHEMICAL STABILITY | STABLE UNDER RECOMMENDED STORAGE CONDITIONS. |
| POSSIBILITY OF HAZARDOUS REACTIONS | NO DATA AVAILABLE |
| CONDITIONS TO AVOID | NO DATA AVAILABLE |
| INCOMPATIBLE MATERIALS | STRONG REDUCING AGENTS, ALCOHOLS, STRONG ACIDS, DO NOT STORE NEAR ACIDS. |
| HAZARDOUS DECOMPOSITION PRODUCTS | OTHER DECOMPOSITION PRODUCTS - NO DATA AVAILABLE HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS. - NITROGEN OXIDES (NOX), CHROMIUM OXIDES IN THE EVENT OF FIRE: SEE SECTION 5 |

SECTION 11. TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

| | |
|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ACUTE TOXICITY | LD50 ORAL - RAT - 53 MG/KG |
| | LC50 INHALATION - RAT - 4 H - 160 PPM |
| | DERMAL: NO DATA AVAILABLE |
| | NO DATA AVAILABLE |
| SKIN CORROSION/IRRITATION | NO DATA AVAILABLE |
| SERIOUS EYE DAMAGE/EYE IRRITATION | EYES RABBIT RESULT: SEVERE EYE IRRITATION (DRAIZE TEST) |
| RESPIRATORY OR SKIN SENSITISATION | NO DATA AVAILABLE |
| GERM CELL MUTAGENICITY | MAY ALTER GENETIC MATERIAL. IN VIVO TESTS SHOWED MUTAGENIC EFFECTS |
| CARCINOGENICITY | |
| | THIS IS OR CONTAINS A COMPONENT THAT HAS BEEN REPORTED TO BE CARCINOGENIC BASED ON ITS IARC, OSHA, ACGIH, NTP, OR EPA CLASSIFICATION. POSSIBLE HUMAN CARCINOGEN |
| IARC: | 1 - GROUP 1: CARCINOGENIC TO HUMANS |
| NTP: | NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A KNOWN OR ANTICIPATED CARCINOGEN BY NTP. |
| OSHA: | NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS ON OSHA S LIST OF REGULATED CARCINOGENS. |
| REPRODUCTIVE TOXICITY | MAY CAUSE CONGENITAL MALFORMATION IN THE FETUS. PRESUMED HUMAN REPRODUCTIVE TOXICANT MAY CAUSE REPRODUCTIVE DISORDERS. |
| SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE | NO DATA AVAILABLE |
| SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE | CAUSES DAMAGE TO ORGANS THROUGH PROLONGED OR REPEATED EXPOSURE. |
| ASPIRATION HAZARD | NO DATA AVAILABLE |
| ADDITIONAL INFORMATION | RTECS: NOT AVAILABLE |
| | TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED. |
| | ULCERATION, MATERIAL IS EXTREMELY DESTRUCTIVE TO TISSUE OF THE MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT, EYES, AND SKIN. |

SECTION 12. ECOLOGICAL INFORMATION

| | |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| TOXICITY | |
| TOXICITY TO FISH | LC0 - LEUCISCUS IDUS (GOLDEN ORFE) - 50 MG/L - 48 H |
| PERSISTENCE AND DEGRADABILITY | NO DATA AVAILABLE |
| BIOACCUMULATIVE POTENTIAL | NO DATA AVAILABLE |
| MOBILITY IN SOIL | NO DATA AVAILABLE |
| RESULTS OF PBT AND VPVB ASSESSMENT | PBT/VPVB ASSESSMENT NOT AVAILABLE AS CHEMICAL SAFETY ASSESSMENT NOT REQUIRED/NOT CONDUCTED |
| OTHER ADVERSE EFFECTS | AN ENVIRONMENTAL HAZARD CANNOT BE EXCLUDED IN THE EVENT OF UNPROFESSIONAL HANDLING OR DISPOSAL. VERY TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS. |

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE TREATMENT METHODS

| | |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PRODUCT | OFFER SURPLUS AND NON-RECYCLABLE SOLUTIONS TO A LICENSED DISPOSAL COMPANY. BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER BUT EXERT EXTRA CARE IN IGNITING AS THIS MATERIAL IS HIGHLY FLAMMABLE. CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE OF THIS MATERIAL. DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER. |
| CONTAMINATED PACKAGING | DISPOSE OF AS UNUSED PRODUCT. |

SECTION 14. TRANSPORT INFORMATION

| | |
|-----------------------|---------------------|
| DOT (US) | |
| PROPER SHIPPING NAME: | AMMONIUM DICHROMATE |
| UN NUMBER: | 1439 |
| CLASS: | 5.1 |
| PACKING GROUP: | II |

REPORTABLE QUANTITY 10 LBS
(RQ):
POISON INHALATION HAZARD: NO

IMDG

PROPER SHIPPING NAME: AMMONIUM DICHROMATE
UN NUMBER: 1439
CLASS: 5.1
PACKING GROUP: II
EMS-NO: F-H, S-Q
MARINE POLLUTANT: YES

IATA

PROPER SHIPPING NAME: AMMONIUM DICHROMATE
UN NUMBER: 1439
CLASS: 5.1
PACKING GROUP: II

SECTION 15. REGULATORY INFORMATION

SARA 302 COMPONENTS THIS MATERIAL DOES NOT CONTAIN ANY COMPONENTS WITH A SECTION 302 EHS TPQ.

SARA 313 COMPONENTS THE FOLLOWING COMPONENTS ARE SUBJECT TO REPORTING LEVELS ESTABLISHED BY SARA TITLE III, SECTION 313:

| | CAS # | REVISION DATE |
|---------------------|-----------|---------------|
| Ammonium dichromate | 7789-09-5 | 02-16-1993 |

SARA 311/312 HAZARDS REACTIVITY HAZARD, ACUTE HEALTH HAZARD, CHRONIC HEALTH HAZARD

MASSACHUSETTS RIGHT TO KNOW COMPONENTS

| | CAS # | REVISION DATE |
|---------------------|-----------|---------------|
| Ammonium dichromate | 7789-09-5 | 02-16-1993 |

PENNSYLVANIA RIGHT TO KNOW COMPONENTS

| | CAS # | REVISION DATE |
|---------------------|-----------|---------------|
| Ammonium dichromate | 7789-09-5 | 02-16-1993 |

NEW JERSEY RIGHT TO KNOW COMPONENTS

| | CAS # | REVISION DATE |
|---------------------|-----------|---------------|
| Ammonium dichromate | 7789-09-5 | 02-16-1993 |

SECTION 16. OTHER INFORMATION

FULL TEXT OF H-STATEMENTS REFERRED TO UNDER SECTIONS 2 AND 3.

H272 MAY INTENSIFY FIRE; OXIDISER.
H301 TOXIC IF SWALLOWED.
H312 HARMFUL IN CONTACT WITH SKIN.
H314 CAUSES SEVERE SKIN BURNS AND EYE DAMAGE.

| | |
|------|----------------------------------------------------------------------------|
| H317 | MAY CAUSE AN ALLERGIC SKIN REACTION. |
| H330 | FATAL IF INHALED. |
| H334 | MAY CAUSE ALLERGY OR ASTHMA SYMPTOMS OR BREATHING DIFFICULTIES IF INHALED. |
| H340 | MAY CAUSE GENETIC DEFECTS. |
| H350 | MAY CAUSE CANCER. |
| H360 | MAY DAMAGE FERTILITY OR THE UNBORN CHILD. |
| H372 | CAUSES DAMAGE TO ORGANS THROUGH PROLONGED OR REPEATED EXPOSURE. |
| H410 | VERY TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS. |

MSDS LEGEND

| | |
|--------|----------------------------------------------------------|
| MW: | MOLECULAR WEIGHT |
| MF: | MOLECULAR FORMULA |
| VOC: | VOLATILE ORGANIC COMPOUNDS |
| ACGIH: | AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGINISTS |
| CAS: | CHEMICAL ABSTRACTS SERIVE REGISTRY NUMBER |
| OSHA: | OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION |
| PEL: | PERMISSIBLE EXPOSURE LIMIT (OSHA) |
| TLV: | THRESHOLD LIMIT VALUE (ACGIH) |

IMPORTANT:

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