DPM 956*

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Material Safety

Diamond Shamrock

GENERAL INFORMATION

Data Sheet

SODIUM BICHROMATE (CRYSTALS)

No Reactivity Hazard: 0

Non-combustible: 0

High Health Hazard: 3

Ratings based on NIOSH "Identification System for Occupationally Hazardous Materials" (1974)

1507

I PRODUCT IDENTIFICATION

MANUFACTURER'S NAME DIAMOND SHAMROCK CORPORATION	REGULAR TELEPHONE NO. EMERGENCY TELEPHONE NO. Contact Local Sales Office 216/357-7070
ADDRESS Divisional Technical Center, P.O. Box 191, Painesville, Ohio 44077	
TRADE NAME SODIUM BICHROMATE (CRYSTALS)	
SYNONYMS Sodium Dichromate Dihydrate, $Na_2Cr_2O_7 \bullet 2H_2O$	

II HAZARDOUS INGREDIENTS

MATERIAL OR COMPONENT	%	HAZARD DATA
Sodium Dichromate Dihydrate	100	PEL* = 0.05 mg/m³ (as Cr)
*OSHA Permissible Exposure Limit (PEL)		

III PHYSICAL DATA

BOILING POINT, 760 MM HG N/A	MELTING POINT N/D	FREEZING POINT N/A
SPECIFIC GRAVITY (H_2O=1) 2.35 @ 25°C	VAPOR PRESSURE N/A	
VAPOR DENSITY (AIR=1) N/A	SOLUBILITY IN H_2O, % BY WT. 73%	
% VOLATILES BY VOL. N/A	EVAPORATION RATE (BUTYL ACETATE=1) N/A	
APPEARANCE AND ODOR Orange red crystals; no odor	Density @ 20°C: Loose - 77.0 Lb/Cu. Ft. Tapped - 90.0 Lb/Cu. Ft.	
pH 3.0 - 4.6		

N/A = Not Applicable N/D = Not Determined

SP—MSD—5

All information recommendations and suggestions appearing herein concerning our product are based upon tests and data believed to be reliable, however, it is the user's responsibility to determine the safety, toxicity, and suitability for his own use of the product described herein. Since the actual use by others is beyond our control, no guarantee, expressed or implied, is made by Diamond Shamrock Corporation as to the effects of such use, the results to be obtained or the safety and toxicity of the product nor does Diamond Shamrock Corporation assume any liability arising out of use, by others, of the product referred to herein. Nor is the information herein to be construed as absolutely complete since additional information may be necessary or desirable when particular or exceptional conditions or circumstances exist or because of applicable laws or government regulations.

Data Sheet

IV FIRE AND EXPLOSION DATA

FLASH POINT (TEST METHOD)	AUTOIGNITION TEMPERATURE
Not Combustible	Not Combustible

FLAMMABLE LIMITS IN AIR, % BY VOL.	LOWER	UPPER
Not Combustible	N/A	N/A

EXTINGUISHING MEDIA

Use water fog, dry chemical, or carbon dioxide in areas where sodium bichromate is stored. Sodium bichromate is not combustible.

SPECIAL FIRE FIGHTING PROCEDURES

None

UNUSUAL FIRE AND EXPLOSION HAZARD

None

V HEALTH HAZARD INFORMATION

HEALTH HAZARD DATA

Acute Oral LD_{50} >50 <500 mg/kg (rat)
Acute Dermal LD_{50} ≤200 mg/kg

Primary Skin Irritation Index = 4.9/8.0
Eye Irritation Score = 60.8/110
LC_{50} >0.180 mg/l

ROUTES OF EXPOSURE

INHALATION

Inhalation of dusts or mists may cause irritation of the nasal septum and respiratory tract. Prolonged or repeated exposure may cause ulceration and perforation of the nasal septum.

SKIN CONTACT

Contact with broken skin may lead to formation of firmly margined "chrome sores".

SKIN ABSORPTION

Massive overexposure to solutions could lead to electrolyte imbalance, kidney failure, and death.

EYE CONTACT

Overexposure will cause severe irritation and potential permanent damage to the eyes. Exposure to low level concentrations may cause moderate irritation or conjunctivitis.

INGESTION

Can cause severe tissue destruction and death as a result of electrolyte imbalance and kidney failure.

EFFECTS OF OVEREXPOSURE

ACUTE OVEREXPOSURE Causes severe irritation to eyes. May cause deep, painful, penetrating ulcers on skin. May cause severe irritation of the respiratory tract and nasal septum and possible perforation.

CHRONIC OVEREXPOSURE Prolonged or repeated eye contact may cause conjunctivitis. Prolonged or repeated skin contact, especially with broken skin, may cause "chrome sores". Ulceration and perforation of the nasal septum may result from prolonged or repeated inhalation of sodium bichromate dusts and mists.

EMERGENCY AND FIRST AID PROCEDURES **Object is to seek medical attention immediately**

EYES: **Immediately** flush eyes with plenty of water for at least 15 minutes holding eyelids apart to ensure flushing of entire eye surface. Washing eyes within 1 minute is essential to achieve maximum effectiveness. Seek medical attention immediately.

SKIN:

Wash contaminated areas with plenty of soap and water. Remove contaminated clothing and footwear and wash clothing before reuse. Discard footwear which cannot be decontaminated. Seek medical attention immediately.

INHALATION:

Get person out of contaminated area to fresh air. If breathing has stopped, artificial respiration should be started. Oxygen may be administered, if readily available. Irrigate nasal passages and mouth with salt water. Seek medical attention immediately.

INGESTION:

If swallowed, **Do Not Induce Vomiting**. Give large quantities of water. If available, give several glasses of milk. Never give anything by mouth to an unconscious person. **Seek Medical Attention Immediately**.

NOTES TO PHYSICIAN

Massive dermal overexposure to solutions of sodium bichromate can lead to electrolyte imbalance, kidney failure, and death. Death has been avoided in several cases through the use of early renal dialysis. Skin ulcers may be treated by removal from exposure, daily cleansing and debridement, and application of antibiotic cream and dressings to prevent further exposure or contamination.

Data Sheet

VI REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY

Under normal use conditions, sodium bichromate is stable.

INCOMPATIBILITY

Avoid contact with organic materials, oils, greases, strong acids, and any oxidizing materials. Mildly oxidizing in solution, but becomes strongly oxidizing in strong acid solutions.

HAZARDOUS DECOMPOSITION PRODUCTS

None

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION

None

VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED

Leaks should be stopped. Solids should be cleaned up immediately with a shovel to remove as much material as possible. Remaining traces of material should be neutralized, then dampened with water. Dampened material should be covered with absorbent material. Place material in closed containers, label, and dispose of in approved chemical waste disposal area after treating waste material with appropriate waste disposal method (see below).

NEUTRALIZING CHEMICALS

Reduce hexavalent chromium with sodium bisulfite, sodium sulfite, or ferrous sulfate or ferrous chloride. Neutralize with sodium bicarbonate (soda ash) or lime.

WASTE DISPOSAL METHOD

Hexavalent chromium in solution may be reduced to trivalent chromium by reducing agents, such as sodium bisulfite, sodium sulfite, sulfur dioxide, or ferrous sulfate or chloride. The reduced chromium may then be precipitated as the chromic oxide by neutralizing to a pH of 7.5 with soda ash, caustic soda, or lime. The solid material may be disposed of via an approved chemical waste landfill. Dispose of in accordance with all Federal, state, and local health pollution requirements.

VIII INDUSTRIAL HYGIENE CONTROL MEASURES

VENTILATION REQUIREMENTS

Good industrial hygiene practice dictates that the work area be provided with adequate local exhaust ventilation or other controls to maintain the area concentration of sodium bichromate below 0.05 mg/m^3 (as Cr) as required by OSHA. The number of persons exposed should be minimized. A NIOSH-approved respirator for dusts and mists must be used, if the air concentration exceeds the PEL, until the exposures are controlled.

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY (SPECIFY IN DETAIL)

A NIOSH-approved respirator for dusts, mists, and vapors.

EYE

Chemical splash goggles.

GLOVES

Industrial grade protective rubber or plastic gloves.

OTHER CLOTHING AND EQUIPMENT

Hard hats, rubber safety shoes or boots, and protective clothing should be worn when handling sodium bichromate. Protective clothing should be changed daily. Safety showers and eyewash stations should be provided in all areas in which sodium bichromate is stored and/or handled.

Data Sheet

IX SPECIAL PRECAUTIONS

PRECAUTIONARY STATEMENTS

OTHER HANDLING AND STORAGE REQUIREMENTS

Sodium Bichromate is hygroscopic.

Store in a dry location to prevent caking.

Keep container closed.

Do not store in areas containing organic materials, oils, greases, strong acids or any oxidizable materials.

DEPARTMENT OF TRANSPORTATION INFORMATION
PROPER SHIPPING NAME: Sodium Dichromate* - Dry
HAZARD CLASS: ORM-A NA1479
HAZARDOUS SUBSTANCE: RQ 1,000 lbs. or more in a single container

*Regulated Only for Air Transport

PREPARED BY Diamond Shamrock Corporation
Technical Service Group

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