Printing date 08/31/2021

*

Reviewed on 08/31/2021

1 Identificati	on		
· Product iden	tifier		
	Sodium Dichromate		
	Saturated Solution		
· Article numb	er: DEL037S		
	supplier of the safety data sheet		
• Manufacture Aqua Solution			AQUA
6913 Highwa			SOLUTIONS
DEER PARK			
USA 800-256-258	6		
	-		
• Information Technical Co			
Sherman Nels	son shermann@aquasolutions.org		
• Emergency to Chemtrec: 80	elephone number:		
Chemtrec: 80 Canutec: 613			
2 Hazard(s)	identification		
· Classification	n of the substance or mixture		
GF	IS03 Flame over circle		
Ox. Liq. 2	H272 May intensify fire; oxidizer.		
· · · · · · · · · · · · · · · · · · ·			
GH	IS06 Skull and crossbones		
Acute Tox. 3	H301 Toxic if swallowed.		
Acute Tox. 2	H330 Fatal if inhaled.		
GH	IS08 Health hazard		
Resp. Sens. 1	H334 May cause allergy or asthme	ı symptoms or breathing di <u>f</u>	ficulties if inhaled.
Muta. 1B	H340 May cause genetic defects.		
Carc. 1B	H350 May cause cancer.		
Repr. 1B	H360 May damage fertility or the	ınborn child.	
STOT SE 1	H370 Causes damage to organs.		
STOT RE 1	H372 Causes damage to organs th	rough prolonged or repeate	ed exposure.
	7905 G		
💥 🐑 GE	IS05 Corrosion		
Skin Corr. 1H	B H314 Causes severe skin burns an	d eve damage.	
Eye Dam. 1	H318 Causes serious eye damage.	, - ·····	
			(Contd. on page 2)

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Trade name: Sodium Dichromate Saturated Solution

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GHS07 Acute Tox. 4 H312 Harmful in contact with skin. Skin Sens. 1 H317 May cause an allergic skin reaction. · Label elements • GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS). · Hazard pictograms GHS08 GHS03 GHS05 GHS06 · Signal word Danger · Hazard-determining components of labeling: Sodium Dichromate Dihydrate · Hazard statements May intensify fire; oxidizer. Toxic if swallowed. Harmful in contact with skin. Fatal if inhaled. Causes severe skin burns and eye damage. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. May cause genetic defects. May cause cancer. May damage fertility or the unborn child. Causes damage to organs. Causes damage to organs through prolonged or repeated exposure. · Precautionary statements Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat. Keep/Store away from clothing/combustible materials. Take any precaution to avoid mixing with combustibles. Do not breathe dusts or mists. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection. [In case of inadequate ventilation] wear respiratory protection. If swallowed: Immediately call a poison center/doctor. If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Get medical advice/attention. Call a poison center/doctor if you feel unwell.

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Trade name: Sodium Dichromate Saturated Solution

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Get medical advice/attention if you feel unwell. Specific treatment is urgent (see on this label). Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical advice/attention. *If experiencing respiratory symptoms: Call a poison center/doctor.* Wash contaminated clothing before reuse. In case of fire: Use CO2, powder or water spray to extinguish. Store in a well-ventilated place. Keep container tightly closed. Store locked up. Dispose of contents/container in accordance with local/regional/national/international regulations. · Classification system: · NFPA ratings (scale 0 - 4) Health = 3Fire = 3Reactivity = 0The substance possesses oxidizing properties. · HMIS-ratings (scale 0 - 4) HEALTH ^{*3} Health = *3 FIRE 3 Fire = 3**REACTIVITY O** Reactivity = 0· Other hazards · Results of PBT and vPvB assessment · **PBT:** Not applicable. · vPvB: Not applicable. **3** Composition/information on ingredients

· Chemical characterization: Mixtures

• Description: Mixture of the substances listed below with nonhazardous additions.

· Dangerous components:

CAS: 7789-12-0 Sodium Dichromate Dihydrate

· Table of Nonhazardous Ingredients

CAS: 7732-18-5 Water

4 First-aid measures

· Description of first aid measures

· General information:

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Remove breathing apparatus only after contaminated clothing have been completely removed.

In case of irregular breathing or respiratory arrest provide artificial respiration.

• After inhalation:

Supply fresh air or oxygen; call for doctor.

In case of unconsciousness place patient stably in side position for transportation.

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60.0%

40.0%

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- · After skin contact: Immediately wash with water and soap and rinse thoroughly.
- After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
- After swallowing:

Do not induce vomiting; immediately call for medical help.

Drink copious amounts of water and provide fresh air. Immediately call a doctor.

· Information for doctor:

- Most important symptoms and effects, both acute and delayed No further relevant information available.
- · Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Fire-fighting measures

- · Extinguishing media
- Suitable extinguishing agents: Use fire fighting measures that suit the environment.
- \cdot Special hazards arising from the substance or mixture
- During heating or in case of fire poisonous gases are produced.

· Advice for firefighters

• Protective equipment: Mouth respiratory protective device.

6 Accidental release measures

Mount respiratory protective device.	
Wear protective equipment. Keep unprotected persons away.	
Environmental precautions:	
Dilute with plenty of water.	
Do not allow to enter sewers/ surface or ground water.	
Methods and material for containment and cleaning up:	
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).	
Use neutralizing agent.	
Dispose contaminated material as waste according to item 13.	
Ensure adequate ventilation.	
Reference to other sections	
See Section 7 for information on safe handling.	
See Section 8 for information on personal protection equipment.	
See Section 13 for disposal information.	
Protective Action Criteria for Chemicals	
PAC-1:	
CAS: 7789-12-0 Sodium Dichromate Dihydrate	0.43 mg/m [.]
PAC-2:	
CAS: 7789-12-0 Sodium Dichromate Dihydrate	7.5 mg/m
PAC-3:	
CAS: 7789-12-0 Sodium Dichromate Dihydrate	45 mg/m [.]

7 Handling and storage

· Handling:

· Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

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Open and handle receptacle with care.

Prevent formation of aerosols.

· Information about protection against explosions and fires: Keep respiratory protective device available.

· Conditions for safe storage, including any incompatibilities

· Storage:

• Requirements to be met by storerooms and receptacles: No special requirements.

• Information about storage in one common storage facility: Not required.

• Further information about storage conditions: Keep receptacle tightly sealed.

• Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

• Additional information about design of technical systems: No further data; see item 7.

· Control parameters

• Components with limit values that require monitoring at the workplace:

CAS: 7789-12-0 Sodium Dichromate Dihydrate

PEL Long-term value: 0.005* mg/m³ Ceiling limit value: 0.1** mg/m³ *as Cr(VI) **as CrO3; see 29 CFR 1910.1026

- REL Long-term value: 0.0002 mg/m³ as Cr; See Pocket Guide Apps. A and C
- TLV Short-term value: 0.0005 mg/m³ Long-term value: 0.0002 mg/m³ as Cr(VI); inhalable, Skin; BEI, DSEN, RSEN

· Ingredients with biological limit values:

CAS: 7789-12-0 Sodium Dichromate Dihydrate

BEI 25 µg/L

LD50 Intraperitoneal: urine Time: end of shift at end of workweek LD50: Total chromium (fume)

10 μg/L LD50 Intraperitoneal: urine Time: increase during shift LD50: Total chromium (fume)

• Additional information: The lists that were valid during the creation were used as basis.

· Exposure controls

· Personal protective equipment:

General protective and hygienic measures: Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Store protective clothing separately. Avoid contact with the eyes. Avoid contact with the eyes and skin.

· Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

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(Contd. of page 5)

• Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation • Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

• Eye protection:



Tightly sealed goggles

· Body protection: Protective work clothing

Information on basic physical and c	hemical properties	
General Information Appearance:		
Form:	Liquid	
Color:	Dark orange color	
Odor:	Odorless	
Odor threshold:	Not determined.	
pH-value:	Not determined.	
Change in condition Melting point/Melting range: Boiling point/Boiling range:	Undetermined. 100 °C (212 °F)	
Flash point:	Not applicable.	
Flammability (solid, gaseous):	Not applicable.	
Decomposition temperature:	Not determined.	
Auto igniting:	Product is not selfigniting.	
Danger of explosion:	Product does not present an explosion hazard.	
Explosion limits:		
Lower:	Not determined.	
Upper:	Not determined.	
Vapor pressure at 20 °C (68 °F):	23 hPa (17.3 mm Hg)	

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Trade name: Sodium Dichromate Saturated Solution

		(Contd. of page
· Density at 20 °C (68 °F):	1 g/cm ³ (8.345 lbs/gal)	
Relative density	Not determined.	
· Vapor density	Not determined.	
Evaporation rate	Not determined.	
Solubility in / Miscibility with		
Water:	Fully miscible.	
· Partition coefficient (n-octanol/	water): Not determined.	
Viscosity:		
Dynamic:	Not determined.	
Kinematic:	Not determined.	
Solvent content:		
Water:	40.0 %	
VOC content:	0.00~%	
	0.0 g/l / 0.00 lb/gal	
Solids content:	60.0 %	
Other information	No further relevant information available.	

10 Stability and reactivity

• *Reactivity* No further relevant information available.

- · Chemical stability
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- · Possibility of hazardous reactions No dangerous reactions known.
- \cdot Conditions to avoid No further relevant information available.
- Incompatible materials: No further relevant information available.
- · Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

· Information on toxicological effects

• Acute toxicity:

		tt are relevant for classification:	
ATE (Acu	te Toxicity	y Estimate)	
Oral	LD50	167 mg/kg	
Dermal	LD50	1,833 mg/kg	
Inhalative	LC50/4h	0.207 mg/l (rat)	
CAS: 7789)-12-0 Sod	dium Dichromate Dihydrate	
Oral	LD50	100 mg/kg (ATE)	
Dermal	LD50	1,100 mg/kg (ATE)	
Inhalative	LC50/4h	0.05 mg/l (ATE)	
Primary ir on the skin on the eye: Strong cau	a: Caustic	effect on skin and mucous membranes.	
2	site offeen	(Contd. or	n page 8) U

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Trade name: Sodium Dichromate Saturated Solution

(Contd. of page 7) Strong irritant with the danger of severe eye injury. · Sensitization: Sensitization possible through inhalation. Sensitization possible through skin contact. · Additional toxicological information: The product shows the following dangers according to internally approved calculation methods for preparations: Toxic Harmful Corrosive Irritant Very toxic Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach. The product can cause inheritable damage. · Carcinogenic categories · IARC (International Agency for Research on Cancer) CAS: 7789-12-0 Sodium Dichromate Dihydrate 1 · NTP (National Toxicology Program) CAS: 7789-12-0 Sodium Dichromate Dihydrate Κ · OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

- · Toxicity
- · Aquatic toxicity: No further relevant information available.
- · Persistence and degradability No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- · Mobility in soil No further relevant information available.
- Additional ecological information:
- · General notes:
- Water hazard class 3 (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities. Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Danger to drinking water if even extremely small quantities leak into the ground.

- · Results of PBT and vPvB assessment
- **PBT:** Not applicable.
- vPvB: Not applicable.
- · Other adverse effects No further relevant information available.

13 Disposal considerations

- · Waste treatment methods
- · Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- · Uncleaned packagings:
- Recommendation: Disposal must be made according to official regulations.

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Safety Data Sheet acc. to OSHA HCS

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Trade name: Sodium Dichromate Saturated Solution

• Recommended cleansing agent: Water, if necessary with cleansing agents.

Transport information	
UN-Number DOT, IMDG, IATA	UN3139
UN proper shipping name DOT IMDG, IATA	Oxidizing liquid, n.o.s. (Sodium Dichromate Dihydrate) OXIDIZING LIQUID, N.O.S. (Sodium Dichromate Dihydrate)
Transport hazard class(es)	
DOT	
OXIDIZER 51	
Class Label	5.1 Oxidizing substances 5.1
IMDG, IATA	
Class Label	5.1 Oxidizing substances 5.1
	5.1
Packing group DOT, IMDG, IATA	11
Environmental hazards:	Product contains environmentally hazardous substances: Sodiu Dichromate Dihydrate
Special precautions for user Hazard identification number (Kemler code, EMS Number: Stowage Category Segregation Code	Warning: Oxidizing substances): 50 F-A,S-Q B SG38 Stow "separated from" SGG2-ammonium compounds. SG49 Stow "separated from" SGG6-cyanides SG60 Stow "separated from" SGG16-peroxides
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
Transport/Additional information:	
DOT Quantity limitations	On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L
IMDG Limited quantities (LQ)	100 ml

ACTIVE

Safety Data Sheet acc. to OSHA HCS

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Trade nam	e: Sodium Dichromate Saturated Solution	

	(Contd. of page 9)
· Excepted quantities (EQ)	Code: E4 Maximum net quantity per inner packaging: 1 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 3139 OXIDIZING LIQUID, N.O.S. (SODIUM DICHROMATE DIHYDRATE), 5.1, II

15 Regulatory information

 \cdot Safety, health and environmental regulations/legislation specific for the substance or mixture \cdot Sara

· Section 355 (extremely hazardous substances):

None of the ingredients is listed.

• Section 313 (Specific toxic chemical listings): CAS: 7789-12-0 Sodium Dichromate Dihydrate

· TSCA (Toxic Substances Control Act):

Water

· Hazardous Air Pollutants

CAS: 7789-12-0 Sodium Dichromate Dihydrate

· Proposition 65

 • Chemicals known to cause cancer: CAS: 7789-12-0 Sodium Dichromate Dihydrate

Chemicals known to cause reproductive toxicity for females:

CAS: 7789-12-0 Sodium Dichromate Dihydrate

· Chemicals known to cause reproductive toxicity for males:

CAS: 7789-12-0 Sodium Dichromate Dihydrate

· Chemicals known to cause developmental toxicity:

CAS: 7789-12-0 Sodium Dichromate Dihydrate

· Carcinogenic categories

 \cdot EPA (Environmental Protection Agency)

CAS: 7789-12-0 Sodium Dichromate Dihydrate

• TLV (Threshold Limit Value)

CAS: 7789-12-0 Sodium Dichromate Dihydrate

· NIOSH-Ca (National Institute for Occupational Safety and Health)

CAS: 7789-12-0 Sodium Dichromate Dihydrate

• *GHS label elements* The product is classified and labeled according to the Globally Harmonized System (GHS). • *Hazard pictograms*



· Signal word Danger

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A(inh), D(oral), K/L(inh), CBD(oral)

A1

⁻ US

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	(Contd. of page 10
Hazard-determining components of labeling:	
Sodium Dichromate Dihydrate	
Hazard statements	
May intensify fire; oxidizer.	
Toxic if swallowed.	
Harmful in contact with skin.	
Fatal if inhaled.	
Causes severe skin burns and eye damage.	
May cause allergy or asthma symptoms or breathing difficulties if inhaled.	
May cause an allergic skin reaction.	
May cause genetic defects.	
May cause cancer.	
May damage fertility or the unborn child.	
Causes damage to organs.	
Causes damage to organs through prolonged or repeated exposure.	
Precautionary statements	
Obtain special instructions before use.	
Do not handle until all safety precautions have been read and understood.	
Keep away from heat.	
Keep/Store away from clothing/combustible materials.	
Take any precaution to avoid mixing with combustibles.	
Do not breathe dusts or mists.	
Wash thoroughly after handling.	
Do not eat, drink or smoke when using this product.	
Use only outdoors or in a well-ventilated area.	
Contaminated work clothing must not be allowed out of the workplace.	
Wear protective gloves/protective clothing/eye protection/face protection.	
[In case of inadequate ventilation] wear respiratory protection.	
If swallowed: Immediately call a poison center/doctor.	
If swallowed: Rinse mouth. Do NOT induce vomiting.	
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/sho	wer.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.	
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if pre	sent and easy to de
Continue rinsing.	sent and easy to a
IF exposed or concerned: Get medical advice/attention.	
Call a poison center/doctor if you feel unwell.	
Get medical advice/attention if you feel unwell.	
Specific treatment is urgent (see on this label).	
Take off contaminated clothing and wash it before reuse.	
If skin irritation or rash occurs: Get medical advice/attention.	
If experiencing respiratory symptoms: Call a poison center/doctor.	
Wash contaminated clothing before reuse.	
In case of fire: Use CO2, powder or water spray to extinguish.	
Store in a well-ventilated place. Keep container tightly closed.	
Store locked up.	
Dispose of contents/container in accordance with local/regional/national/international regula	ations.
National regulations:	
Additional classification according to Decree on Hazardous Materials:	
Carcinogenic hazardous material group III (dangerous).	
Information about limitation of use:	
Workers are not allowed to be exposed to the hazardous carcinogenic materials contained	in this preparation
Exceptions can be made by the authorities in certain cases.	r crananor
Exceduons can be made by the authorities in certain cases	

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· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Department issuing SDS: Environment protection department.

· Contact:

· Date of preparation / last revision Revision 0.1, 02-20-18: revised ingredient list, ALIZARIN RED S BIOLOGICAL STAIN was not listed. STN Revision 1.0, 08-12-2021: upodated hazard information. STN 08/31/2021 / 1.0 · Abbreviations and acronyms: IMDG: International Maritime Code for Dangerous Goods DOT: US Department of Transportation IATA: International Air Transport Association EINECS: European Inventory of Existing Commercial Chemical Substances ELINCS: European List of Notified Chemical Substances CAS: Chemical Abstracts Service (division of the American Chemical Society) NFPA: National Fire Protection Association (USA) HMIS: Hazardous Materials Identification System (USA) VOC: Volatile Organic Compounds (USA, EU) LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative NIOSH: National Institute for Occupational Safety OSHA: Occupational Safety & Health TLV: Threshold Limit Value PEL: Permissible Exposure Limit **REL:** Recommended Exposure Limit BEI: Biological Exposure Limit Ox. Liq. 2: Oxidizing liquids – Category 2 Acute Tox. 3: Acute toxicity – Category 3 Acute Tox. 4: Acute toxicity - Category 4 Acute Tox. 2: Acute toxicity – Category 2 Skin Corr. 1B: Skin corrosion/irritation - Category 1B Eye Dam. 1: Serious eye damage/eye irritation - Category 1 Resp. Sens. 1: Respiratory sensitisation - Category 1 Skin Sens. 1: Skin sensitisation - Category 1 Muta. 1B: Germ cell mutagenicity – Category 1B Carc. 1B: Carcinogenicity - Category 1B Repr. 1B: Reproductive toxicity – Category 1B STOT SE 1: Specific target organ toxicity (single exposure) – Category 1 STOT RE 1: Specific target organ toxicity (repeated exposure) - Category 1 \cdot * Data compared to the previous version altered.