### **Lovibond® Water Testing**

### Tintometer® Group



### Safety Data Sheet acc. to OSHA HCS (HazCom 2012)

Printing date 03/25/2024 Reviewed on 03/20/2024

#### 1 Identification

- · Product identifier
- · Trade name: Chromium Hexavalent RGT Powder
- · Catalogue number: 00537319, 537310, 4537310
- · Application of the substance / the mixture: Reagent for water analysis
- · Manufacturer/Supplier:

Tintometer Inc. 6456 Parkland Drive Sarasota, FL 34243 USA

phone: (941) 756-6410 fax: (941) 727-9654 www.lovibond.us Made in Germany

· Emergency telephone number: + 1 866 928 0789 (English, French, Spanish)

#### 2 Hazard(s) identification

· Classification of the substance or mixture



**GHS09 Environment** 

Aquatic Acute 1 H400 Very toxic to aquatic life.



Skin Irritation 2 H315 Causes skin irritation.

Eye Irritation 2A H319 Causes serious eye irritation.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

- · Label elements
- · GHS label elements The product is classified and labeled according to the Hazard Communication Standard (HCS).
- · Hazard pictograms





GHS07

GHS09

- · Signal word Warning
- · Hazard statements

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H400 Very toxic to aquatic life.

H412 Harmful to aquatic life with long lasting effects.

· Precautionary statements

P280 Wear protective gloves / eye protection.
P273 Avoid release to the environment.

P302+P352 If on skin: Wash with plenty of soap and water.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

P337+P313 If eye irritation persists: Get medical advice/attention.

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#### Trade name: Chromium Hexavalent RGT Powder

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· Other hazards No further relevant information available.

#### 3 Composition/information on ingredients

- · Chemical characterization: Mixtures
- · Description: Mixture of organic and inorganic compounds
- · Composition and Information on Ingredients:

Percent ranges are used due to the confidential product information.

	<u> </u>	•	
	CAS: 5329-14-6	sulfamic acid	80–90%
	EINECS: 226-218-8 Index number: 016-026-00-0	Skin Irritation 2, H315; Eye Irritation 2A, H319; Aquatic Chronic 3, H412	
	RTECS: WO5950000		
Ī	CAS: 7757-82-6	sodium sulphate	10–20%
	EINECS: 231-820-9		
ſ	CAS: 57-09-0	Cetrimonium bromide	0.25-<1%
	EINECS: 200-311-3	♦ Specific Target Organ Toxicity - Repeated Exposure 2, H373; ♦ Eye Damage 1, H318; ♦ Aquatic Acute 1, H400 (M=100); Aquatic Chronic 1, H410 (M=1); ↑ Acute	
	RTECS: BQ 7875000	H318; 🅸 Aquatic Acute 1, H400 (M=100); Aquatic Chronic 1, H410 (M=1); 🐧 Acute	
		Toxicity - Oral 4, H302; Skin Irritation 2, H315; Specific Target Organ Toxicity - Single	
		Exposure 3, H335	

· Additional information:

For the wording of the listed hazard phrases refer to section 16.

Component(s) with workplace-related limit value, see section 8.

#### 4 First-aid measures

- · Description of first aid measures
- General information: Immediately remove any clothing soiled by the product.
- · After inhalation: Supply fresh air; consult doctor in case of complaints.
- · After skin contact:

Immediately rinse with plenty of water.

If skin irritation continues, consult a doctor.

- · After eye contact: Rinse opened eye for several minutes (at least 15 min) under running water. Then consult a doctor.
- After swallowing:

Rinse out mouth and then drink 1-2 glasses of water.

Do not induce vomiting.

If symptoms persist consult doctor.

Most important symptoms and effects, both acute and delayed

after inhalation:

mucosal irritations, cough, breathing difficulty

after swallowing:

mucous membrane irritation

cramps

gastric or intestinal disorders

pain

cardiovascular disorders

· 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.
- · Special hazards arising from the substance or mixture

The product is not combustible.

Formation of toxic gases is possible during heating or in case of fire.

In case of fire, the following can be released:

nitrous gases

Nitrogen oxides (NOx)

Sulfur oxides (SOx)

Sodium oxide

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- · Advice for firefighters
- · Protective equipment:

Wear self-contained respiratory protective device.

Wear fully protective suit.

Additional information

Collect contaminated fire fighting water separately. It must not enter the sewage system.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

Ambient fire may liberate hazardous vapours.

#### **6 Accidental release measures**

- · Personal precautions, protective equipment and emergency procedures
- Advice for non-emergency personnel:

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Avoid formation of dust.

· Advice for emergency responders: Protective equipment: see section 8

· Environmental precautions:

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Methods and material for containment and cleaning up:

Ensure adequate ventilation.

Pick up mechanically.

Dispose contaminated material as waste according to section 13.

Reference to other sections

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

#### 7 Handling and storage

- · Precautions for safe handling
- · Advice on safe handling:

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of dust.

· Hygiene measures:

Avoid contact with the skin.

Avoid contact with the eyes.

Take off immediately all contaminated clothing.

Wash hands before breaks and at the end of work.

Do not eat, drink or smoke when using this product.

- · Conditions for safe storage, including any incompatibilities
- · Requirements to be met by storerooms and receptacles: Store in a cool location.
- Information about storage in one common storage facility: Do not store together with alkalis (caustic solutions).
- Further information about storage conditions:

Protect from heat and direct sunlight.

Protect from exposure to the light.

Store in dry conditions.

Protect from humidity and water.

- Recommended storage temperature: 20°C +/- 5°C (approx. 68°F)
- Specific end use(s) No further relevant information available.

#### 8 Exposure controls/personal protection

- Control parameters
- · Components with limit values that require monitoring at the workplace:

The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

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#### Trade name: Chromium Hexavalent RGT Powder

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#### CAS: 7757-82-6 sodium sulphate

TLV (USA) Short-term value: NIC-0.2 mg/m³ thoracic fraction of aerosol

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

#### · Engineering measures:

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. See item 7.

#### · Personal protective equipment:

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.

- · Breathing equipment: Use respiratory protective device against the effects of fume/dust/aerosol.
- Recommended filter device for short term use: Filter P2
- · Protection of hands:

Protective gloves

Preventive skin protection by use of skin-protecting agents is recommended.

After use of gloves apply skin-cleaning agents and skin cosmetics.

Material of gloves

Nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.11 mm

Penetration time of glove material

Value for the permeation: Level  $\leq$  1 (10 min)

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

· Eye protection:

Safety glasses

Use protective goggles that have been tested and approved in accordance with government standards (like NIOSH).

- · Body protection: Protective work clothing
- · Limitation and supervision of exposure into the environment:

Do not allow product to reach sewage system or any water course.

#### 9 Physical and chemical properties

· Information on basic physical and chemical properties

· Appearance:

Form / Physical state:
Color:
Odor:
Odorless
Odor threshold:
Powder
beige to red
Odorless
Not applicable.

pH-value (29.7 g/l) at 20°C (68°F): 1.1

Melting point/freezing point:
 Initial boiling point and boiling range:
 Flash point:
 Not determined.
 Not applicable.

• Flammability (solid, gas): The product is not combustible.

Auto igniting: Not applicable (solid).

Decomposition temperature: Not determined.

• Auto-ignition temperature: Product is not self-igniting.

· Danger of explosion: Product does not present an explosion hazard.

· Flammability or explosive limits:

Lower: Not applicable. Upper: Not applicable.

· Oxidizing properties: none

· Vapor Pressure: Not applicable.

Density at 20°C (68°F): 2.22 g/cm³ (18.53 lbs/gal)

Relative density: Not determined.
Vapor density: Not applicable.
Evaporation rate: Not applicable.

· Solubility(ies)

· Water: Soluble

Partition coefficient (n-octanol/water): Not applicable (mixture).

· Viscosity:

· Kinematic: Not applicable (solid).

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### Trade name: Chromium Hexavalent RGT Powder

(Contd. of page 4)

- Other information
- · Solids content:

100 %

- · Information with regard to physical hazard classes
- · Corrosive to metals

Based on available data, the classification criteria are not met.

#### 10 Stability and reactivity

- · Reactivity see section "Possibility of hazardous reactions"
- · Chemical stability Stable at ambient temperature (room temperature).
- Possibility of hazardous reactions

Reacts with water.

Aqueous solution reacts acidic.

Forms hydrogen in aqueous solution with metals (Danger of explosion!).

Aqueous solution reacts with metals.

Reacts with acids, alkalis and oxidizing agents.

Reacts with halogenated compounds.

Hydrogen is formed in the presence of aluminum or zinc.

Violent reactions possible with:

nitrates

chlorine

- · Conditions to avoid Strong heating (decomposition)
- · Incompatible materials:

metals

aluminum

· Hazardous decomposition products: see section 5

### 11 Toxicological information

- · Information on toxicological effects
- · Acute toxicity: Based on available data, the classification criteria are not met.

Toute terreity. Based on available data, the sladelineation should are not met.					
· Acute toxicity estimate (ATE <sub>(MIX)</sub> ) - Calculation method:					
Oral GHS ATE <sub>(MIX)</sub> 3868 mg/kg (.)					
· LD/LC50 v	/alues	lues that are relevant for classification:			
CAS: 5329	9-14-6 s	sulfamic acid			
Oral	LD50	3160 mg/kg (rat) (GESTIS)			
CAS: 775	CAS: 7757-82-6 sodium sulphate				
Oral	LD50.	>2000 mg/kg (rat) (OECD 423) (Registrant, ECHA, limit test)			
Dermal	LD50.	>2000 mg/kg (rat)			
Inhalative		>2.4 mg/l4h (rat) (OECD 436) highest concentration that can be produced			
CAS: 57-0	CAS: 57-09-0 Cetrimonium bromide				
Oral	LD50	410 mg/kg (rat) (RTECS)			

- · Primary irritant effect:
- · on the skin: Causes skin irritation.
- · on the eye: Causes serious eye irritation.

	on the eye. Cadoo conous cyc intation.				
· Information on components:					
	CAS: 5329-14-6	CAS: 5329-14-6 sulfamic acid			
			(rabbit: irritation)		
	•		(rabbit: irritation)		
	CAS: 7757-82-6	CAS: 7757-82-6 sodium sulphate			
	Irritation of skin	OECD 404	(rabbit: no irritation)		
	Irritation of eyes	OECD 492	(rabbit: slight irritation)		
	Irritation of eyes	OECD 492	(rabbit: slight irritation)		

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#### Trade name: Chromium Hexavalent RGT Powder

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· Sensitization: Based on available data, the classification criteria are not met.

· Information on components:

CAS: 7757-82-6 sodium sulphate

Sensitization OECD 406 (guinea pig: negative)

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

· NTP (National Toxicology Program)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

- · Other information: see section 8 / 15
- · Synergistic Products: None
- · CMR effects (carcinogenity, mutagenicity and toxicity for reproduction): The following statements refer to the mixture:
- · Germ cell mutagenicity Based on available data, the classification criteria are not met.
- · Carcinogenicity Based on available data, the classification criteria are not met.
- · Reproductive toxicity Based on available data, the classification criteria are not met.
- · STOT (specific target organ toxicity) -single exposure Based on available data, the classification criteria are not met.
- STOT (specific target organ toxicity) -repeated exposure Based on available data, the classification criteria are not met.
- · Aspiration hazard Based on available data, the classification criteria are not met.
- · Information on components:
- OECD 414: Teratogenicity testing
- OECD 473: Mutagenicity testing
- OECD 471, 474, 476, 487: Germ cell mutagenicity testing

#### CAS: 5329-14-6 sulfamic acid

OECD 471	(negative) (Bacterial Reverse Mutation Test - Ames test)	
	(Salmonella typhimurium)	

OECD 476 (negative) (In Vitro Mammalian Cell Gene Mutation Test)

OECD 474 (negative) (mouse, oral)

OECD 487 (negative) (In Vitro Mammalian Cell Micronucleus Test)

CAS: 7757-82-6 sodium sulphate

OECD 471 (negative) (Bacterial Reverse Mutation Test - Ames test)

ECHA: Salmonella typhimurium

OECD 476 (negative) (Mammalian Chromosomal Aberration Test)

OECD 473 (negative) (Mammalian Chromosomal Aberration Test)

#### · Additional toxicological information:

#### CAS: 5329-14-6 sulfamic acid

(source: GESTIS)

Main toxic effects

Acute: Irritative through to corrosive effects to the mucous membranes and skin;

insufficient information available on systemic effects

Chronic: No information available

· Other information Other dangerous properties can not be excluded.

### 12 Ecological information

· Toxicity

· Aquatic toxicity:

CAS: 5329-14-6 sulfamic acid

EC50 71.6 mg/l/48h (Daphnia magna) (OECD 202)

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#### Trade name: Chromium Hexavalent RGT Powder

(Contd. of page 6) EC50 14.2 mg/l/96h (fish) (GESTÍS) LC50 70.3 mg/l/96h (fathhead minnow) (OECD 203) (Merck) CAS: 7757-82-6 sodium sulphate EC50 1766 mg/l/48h (Daphnia magna) **US-EPA NOEC** 8 mg/l /37 d (activated sludge) **ECHA** LC50 120 mg/l/96h (mosquitofish) (IUCLID) 7960 mg/l/96h (fathhead minnow) **US-EPA** CAS: 57-09-0 Cetrimonium bromide EC50 0.037 mg/l/48h (Daphnia magna) (Registrant, ECHA) 0.00227 mg/l (Desmodesmus subspicatus) (72) EC10 (Registrant, ECHA) 0.0011 mg/l/72h (Desmodesmus subspicatus) NOEC (Registrant, ECHA) NOEC 0.023 mg/l (Daphnia magna) (OECD 211, 21d) EC50 (static) 0.00411 mg/l/72h (Desmodesmus subspicatus) (OECD 201)

#### **Bacterial toxicity:**

sulfates toxic > 2.5 g/l

### CAS: 5329-14-6 sulfamic acid

EC10 ≥1000 mg/l (Pseudomonas putida) (16h)

(Registrant, ECHA)

(IUCLID)

#### CAS: 7757-82-6 sodium sulphate

EC10 >1000 mg/l (Pseudomonas putida) (16h) (IUCLID)

#### Other information:

Toxic for fish: Sulfates > 7 g/l

#### · Persistence and degradability

#### CAS: 57-09-0 Cetrimonium bromide

OECD 301 E 100 % / 11 d (readily biodegradable) (Modified OECD Screening Test)
OECD 302 B >95 % / 48 h (readily eliminated from water) (Zahn-Wellens / EMPA Test)

#### Bioaccumulative potential

Pow = n-octanol/wasser partition coefficient

log Pow < 1 = Does not accumulate in organisms.

#### CAS: 5329-14-6 sulfamic acid

log Pow 0.1 (.) (experimental) (Merck)

#### CAS: 57-09-0 Cetrimonium bromide

log Pow 2.26 (.) (Merck)

- · Mobility in soil No further relevant information available.
- · Other adverse effects Avoid transfer into the environment.

#### 13 Disposal considerations

- · Waste treatment methods
- · Recommendation:

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

Hand over to hazardous waste disposers.

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#### Trade name: Chromium Hexavalent RGT Powder

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

#### 14 Transport information

· UN-Number	
· DOT IMDG IATA	LIN2967

· UN proper shipping name

· DOT Sulfamic acid mixture · IMDG, IATA SULPHAMIC ACID mixture

· Transport hazard class(es)

· DOT



· Class 8 Corrosive substances

· Label

· IMDG, IATA



· Class 8 Corrosive substances ·Label 8

· Packing group · DOT, IMDG, IATA Ш

· Environmental hazards: Not applicable.

· Special precautions for user Warning: Corrosive substances

Hazard identification number (Kemler code): 80 · EMS Number: F-A,S-B · Segregation groups (SGG1) Acids Stowage Category

· 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: 25 kg On cargo aircraft only: 100 kg

· IMDG

5 kg · Limited quantities (LQ)

· Excepted quantities (EQ) Code: E1

Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g

#### 15 Regulatory information

- · Safety, health and environmental regulations/legislation specific for the substance or mixture
- · Section 355 (Extremely hazardous substances):

None of the ingredients is listed.

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· Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

· TSCA (Toxic Substances Control Act):

All components have the value ACTIVE.

· Hazardous Air Pollutants

None of the ingredients is listed.

· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

New Jersey Right-to-Know List:

CAS: 5329-14-6 sulfamic acid

New Jersey Special Hazardous Substance List:

CAS: 5329-14-6 sulfamic acid

CO

Pennsylvania Right-to-Know List:

CAS: 7757-82-6 sodium sulphate

Pennsylvania Special Hazardous Substance List:

CAS: 7757-82-6 sodium sulphate

E

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

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

None of the ingredients is listed.

- · Information about limitation of use: Not required.
- · Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

#### 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.

Relevant phrases

H302 Harmful if swallowed.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H373 May cause damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

H412 Harmful to aquatic life with long lasting effects.

· Version number / date of revision: 26 / 03/20/2024

Abbreviations and acronyms:

OECD: Organisation for Economic Co-operation and Development

STOT: specific target organ toxicity

SE: single exposure

RE: repeated exposure

EC50: half maximal effective concentration

IC50: half maximal inhibitory concentration NOEL or NOEC: No Observed Effect Level or Concentration

ACGIH® - American Conference of Governmental Industrial Hygienists

•A1 - Confirmed human carcinogen

- •A2 Suspected human carcinogen
- •A3 Confirmed animal carcinogen with unknown relevance to humans
- •A4 Not classifiable as a human carcinogen
- •A5 Not suspected as a human carcinogen

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IARC - International Agency for Research on Cancer

•Group 1 - Carcinogenic to humans
•Group 2A - Probably carcinogenic to humans
•Group 2B - Possibly carcinogenic to humans

•Group 3 - Not classifiable as to carcinogenicity to humans

•Group 4 - Probably not carcinogenic to humans NTP - National Toxicology Program, U.S. Department of Health and Human Services •Group K - Known to be Human Carcinogens

•Group R - Reasonably Anticipated to be Human Carcinogens 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)

LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit

Acute Toxicity - Oral 4: Acute toxicity - Category 4 Skin Irritation 2: Skin corrosion/irritation - Category 2

Eye Damage 1: Serious eye damage/eye irritation - Category 1

Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A
Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3
Specific Target Organ Toxicity - Repeated Exposure 2: Specific target organ toxicity (repeated exposure) – Category 2

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard - Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard - Category 1

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard - Category 3

Data arise from safety data sheets, reference works and literature.

ECHA: European CHemicals Agency http://echa.europa.eu

GESTIS- Stoffdatenbank (Substance Database, Germany)

IUCLID (International Uniform Chemical Information Database)

RTECS (Registry of Toxic Effects of Chemical Substances )

\* Data compared to the previous version altered.

US-