SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Revision Date 02/27/2015 Version 1.4

SECTION 1.Identification

Product identifier

Product number	109948
Product name	Chromium standard 1000 mg Cr, ($CrCl_3$ in 4.2% HCl) Titrisol®

Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Reagent for analysis

Details of the supplier of the safety data sheet

Company	EMD Millipore Corporation | 290 Concord Road, Billerica, MA 01821, United States of America | General Inquiries: +1-978-715-4321 | Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)

Emergency telephone	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

SECTION 2. Hazards identification

GHS Classification

Corrosive to Metals, Category 1, H290

For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS-Labeling

Hazard pictograms

Signal Word

Warning

Hazard Statements

H290 May be corrosive to metals.

Precautionary Statements

P234 Keep only in original container.

P390 Absorb spillage to prevent material damage.

P406 Store in corrosive resistant stainless steel container with a resistant inliner.

Other hazards

None known.

SECTION 3. Composition/information on ingredients

Chemical nature	Aqueous solution The percent content of the chromium compound mentioned below refers to the amount of the pure chromium therein.

Hazardous ingredients

Chemical Name (Concentration)
CAS-No.
chromium(III) chloride (>= 5 % - < 10 %)
10025-73-7

Exact percentages are being wihtheld as a trade secret.
hydrochloric acid (>= 1 % - < 5 %)
7647-01-0

Exact percentages are being wihtheld as a trade secret.

SECTION 4. First aid measures

Description of first-aid measures

Inhalation
After inhalation: fresh air.

Skin contact
After skin contact: wash off with plenty of water. Remove contaminated clothing.

Eye contact
After eye contact: rinse out with plenty of water with the eyelid held wide open. Call in ophthalmologist if necessary.

Ingestion
After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

irritant effects

Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media
For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture

Not combustible.
Ambient fire may liberate hazardous vapors.
Fire may cause evolution of:
Hydrogen chloride gas

Advice for firefighters

Special protective equipment for fire-fighters
Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information
Suppress (knock down) gases/vapors/mists with a water spray jet.

Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

Environmental precautions

Do not empty into drains.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.
Observe possible material restrictions (see sections 7 and 10).
Take up with liquid-absorbent and neutralizing material (e.g. Chemizorb® H^+, Art. No. 101595).
Dispose of properly. Clean up affected area.

SECTION 7. Handling and storage

Precautions for safe handling

Observe label precautions.

Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

No metal containers.

Tightly closed.

Storage temperature: no restrictions.

SECTION 8. Exposure controls/personal protection

Exposure limit(s)

Ingredients

Basis	Value	Threshold limits	Remarks
chromium(III) chloride 10025-73-7			
NIOSH/GUIDE	Recommended exposure limit (REL):	0.5 mg/m³	Expressed as: as Cr
	Recommended exposure limit (REL):	0.5 mg/m³	Expressed as: as Cr
OSHA_TRANS	PEL:	1 mg/m³	Expressed as: as Cr
	PEL:	0.5 mg/m³	Expressed as: as Cr
Z1A	Time Weighted Average (TWA):	1 mg/m³	
	Time Weighted Average (TWA):	0.5 mg/m³	Expressed as: as Cr
hydrochloric acid 7647-01-0			
ACGIH	Ceiling Limit Value:	2 ppm	
NIOSH/GUIDE	Ceiling Limit Value and Time Period (if specified):	5 ppm 7 mg/m³	
OSHA_TRANS	Ceiling Limit Value:	5 ppm 7 mg/m³	
Z1A	Ceiling Limit Value:	5 ppm 7 mg/m³	

Engineering measures

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

Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

Hygiene measures

Change contaminated clothing. Application of skin- protective barrier cream recommended.
Wash hands after working with substance.

Eye/face protection

Safety glasses

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Other protective equipment:

protective clothing

Respiratory protection

required when vapors/aerosols are generated.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

SECTION 9. Physical and chemical properties

Physical state	liquid
Color	black
Odor	odorless
Odor Threshold	No information available.
pH	< 1 at 68 °F (20 °C)
Melting point	No information available.
Boiling point	No information available.
Flash point	No information available.
Evaporation rate	No information available.
Flammability (solid, gas)	Not applicable
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapor pressure	No information available.
Relative vapor density	No information available.
Density	1.05 g/cm³ at 68 °F (20 °C)
Relative density	No information available.
Water solubility	at 68 °F (20 °C) soluble
Partition coefficient: n-octanol/water	No information available.
Autoignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.

Explosive properties	No information available.
Oxidizing properties	No information available.
Corrosion	May be corrosive to metals.

SECTION 10. Stability and reactivity

Reactivity
See below

Chemical stability
The product is chemically stable under standard ambient conditions (room temperature) .

Possibility of hazardous reactions
Generates dangerous gases or fumes in contact with:

Metals

Violent reactions possible with:

The generally known reaction partners of water.

Conditions to avoid
no information available

Incompatible materials
Metals, metal alloys, (generation of hydrogen)

Hazardous decomposition products
in the event of fire: See section 5.

SECTION 11. Toxicological information

Information on toxicological effects

Likely route of exposure
Eye contact, Skin contact

Target Organs
Eyes
Skin
Respiratory system
Cornea

Acute oral toxicity
Acute toxicity estimate: 7,573 mg/kg
Calculation method

Acute toxicity estimate: > 2,000 mg/kg
Calculation method

Skin irritation
slight irritation

Eye irritation
slight irritation

Specific target organ systemic toxicity - single exposure
The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ systemic toxicity - repeated exposure
The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard
Regarding the available data the classification criteria are not fulfilled.

Carcinogenicity

IARC	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Further information
Quantitative data on the toxicity of this product are not available.
Other information
In contrast to chromium(VI) compounds, chromium(III) compounds are not carcinogenic in animal experiments. Only slight absorption (< 1 %) via gastrointestinal tract in comparison with hexavalent chromium. The greater, nonabsorbed part of chromium(III) is eliminated with the faeces.
Further data:
Handle in accordance with good industrial hygiene and safety practice.

Ingredients

chromium(III) chloride
Acute oral toxicity
LD50 Rat: 440 mg/kg (RTECS)

hydrochloric acid
No information available.

SECTION 12. Ecological information

Ecotoxicity
No information available.

Persistence and degradability
No information available.

Bioaccumulative potential
No information available.

Mobility in soil
No information available.

Additional ecological information
Biological effects:
Harmful effect due to pH shift.
Hazard for drinking water supplies.
Further information on ecology
Discharge into the environment must be avoided.

Ingredients

chromium(III) chloride

Biodegradability

The methods for determining the biological degradability are not applicable to inorganic substances.

hydrochloric acid

Substance does not meets the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

SECTION 14. Transport information

Land transport (DOT)

UN number	UN 1789
Proper shipping name	HYDROCHLORIC ACID
Class	8
Packing group	III
Environmentally hazardous	--

Air transport (IATA)

UN number	UN 1789
Proper shipping name	HYDROCHLORIC ACID
Class	8
Packing group	III
Environmentally hazardous	--
Special precautions for user	no

Sea transport (IMDG)

UN number	UN 1789
Proper shipping name	HYDROCHLORIC ACID
Class	8
Packing group	III
Environmentally hazardous	--
Special precautions for user	yes
EmS	F-A S-B

SECTION 15. Regulatory information

United States of America

SARA 313

The following components are subject to reporting levels established by SARA Title III, Section 313:

Ingredients

chromium(III) chloride	10025-73-7	*5.81 %*
hydrochloric acid	7647-01-0	*4 %*

SARA 302

The following components are subject to reporting levels established by SARA Title III, Section 302:

Ingredients

chromium(III) chloride	10025-73-7
hydrochloric acid	7647-01-0

Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

Ingredients
hydrochloric acid

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

Ingredients
hydrochloric acid

DEA List I

Not listed

DEA List II

Listed

Ingredients

hydrochloric acid	7647-01-0

US State Regulations

Massachusetts Right To Know

Ingredients
chromium(III) chloride
hydrochloric acid

Pennsylvania Right To Know

Ingredients
chromium(III) chloride
hydrochloric acid

New Jersey Right To Know

Ingredients
chromium(III) chloride
hydrochloric acid

California Prop 65 Components

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

Notification status

TSCA:	All components of the product are listed in the TSCA-inventory.
DSL:	All components of this product are on the Canadian DSL.
KOREA:	Not in compliance with the inventory

SECTION 16. Other information

Training advice

Provide adequate information, instruction and training for operators.

Labeling

Hazard pictograms

Signal Word

Warning

Hazard Statements

H290 May be corrosive to metals.

Full text of H-Statements referred to under sections 2 and 3.

H290	May be corrosive to metals.

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

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