



**SAFETY DATA SHEET
CHROMIUM DENSE TRIVALENT**

1. Identification

Product identifier

Product name CHROMIUM DENSE TRIVALENT

Product number 2030

Recommended use of the chemical and restrictions on use

Application Industrial Use

Details of the supplier of the safety data sheet

Supplier SIFCO Applied Surface Concepts
5708 E. Schaaf Road
Independence, Ohio 44131
U.S.A.
Tel.: +1 216-524-0099
Fax: +1 216-524-6331
E-Mail: info@sifcoasc.com

Emergency telephone number

Emergency telephone CHEMTREC (United States) (800) 424-9300; CHEMTREC (International) +1 703-527-3887

2. Hazard(s) identification

Classification of the substance or mixture

Physical hazards Not Classified

Health hazards Skin Irrit. 2 - H315 Eye Dam. 1 - H318 Skin Sens. 1 - H317 STOT SE 3 - H335

Environmental hazards Not Classified

Label elements

Pictogram



Signal word

Danger

Hazard statements

H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.

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| | |
|---------------------------------|--|
| Precautionary statements | <p>P264 Wash contaminated skin thoroughly after handling.</p> <p>P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.</p> <p>P302+P352 If on skin: Wash with plenty of water.</p> <p>P304+P340 If inhaled: Remove person to fresh air and keep comfortable for breathing.</p> <p>P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P403+P233 Store in a well-ventilated place. Keep container tightly closed.</p> <p>P501 Dispose of contents/ container in accordance with national regulations.</p> <p>P260 Do not breathe vapor/ spray.</p> <p>P301+P310 If swallowed: Immediately call a poison center/ doctor.</p> |
|---------------------------------|--|

Contains AMMONIUM FORMATE, CHROMIUM FORMATE, 5.6%

Other hazards

This product does not contain any substances classified as PBT or vPvB.

3. Composition/information on ingredients

Mixtures

| | |
|--------------------------|---------------|
| AMMONIUM FORMATE | 15-20% |
| CAS number: 540-69-2 | |
| Classification | |
| Skin Irrit. 2 - H315 | |
| Eye Irrit. 2 - H319 | |
| STOT SE 3 - H335 | |
| CHROMIUM FORMATE | 15-20% |
| CAS number: 27115-36-2 | |
| Classification | |
| Skin Sens. 1 - H317 | |
| Aquatic Chronic 3 - H412 | |
| AMMONIA 5.6% | 5-10% |
| CAS number: 1336-21-6 | |
| M factor (Acute) = 1 | |
| Classification | |
| Skin Corr. 1B - H314 | |
| Eye Dam. 1 - H318 | |
| STOT SE 3 - H335 | |
| Aquatic Acute 1 - H400 | |
| BARIUM FORMATE | 1-5% |
| CAS number: 541-43-5 | |
| Classification | |
| Acute Tox. 4 - H302 | |
| Acute Tox. 4 - H332 | |

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The full text for all hazard statements is displayed in Section 16.

4. First-aid measures

Description of first aid measures

| | |
|---------------------|---|
| Inhalation | Move affected person to fresh air at once. Get medical attention. |
| Ingestion | Get medical attention immediately. Do not induce vomiting. |
| Skin Contact | Remove contaminated clothing immediately and wash skin with soap and water. Continue to rinse for at least 15 minutes and get medical attention. |
| Eye contact | Remove affected person from source of contamination. Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes and get medical attention. |

Most important symptoms and effects, both acute and delayed

| | |
|---------------------|---|
| Inhalation | May cause respiratory irritation. Coughing, chest tightness, feeling of chest pressure. |
| Ingestion | May cause chemical burns in mouth and throat. May cause stomach pain or vomiting. |
| Skin contact | Causes skin irritation. May cause an allergic skin reaction. |
| Eye contact | Causes severe burns. May cause serious eye damage. |

Indication of immediate medical attention and special treatment needed

| | |
|-----------------------------|------------------------------|
| Notes for the doctor | No specific recommendations. |
|-----------------------------|------------------------------|

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media The product is not flammable. Use fire-extinguishing media suitable for the surrounding fire.

Special hazards arising from the substance or mixture

Specific hazards Corrosive gases or vapors.

Advice for firefighters

Protective actions during firefighting Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

Special protective equipment for firefighters Use protective equipment appropriate for surrounding materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Follow precautions for safe handling described in this safety data sheet. Avoid inhalation of vapors. Provide adequate general and local exhaust ventilation.

Environmental precautions

Environmental precautions Do not discharge into drains or watercourses or onto the ground. Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).

Methods and material for containment and cleaning up

Methods for cleaning up Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. Flush contaminated area with plenty of water. Avoid the spillage or runoff entering drains, sewers or watercourses. Collect and dispose of spillage as indicated in Section 13. Wash thoroughly after dealing with a spillage.

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Reference to other sections Wear protective clothing as described in Section 8 of this safety data sheet. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

7. Handling and storage

Precautions for safe handling

Usage precautions Avoid spilling. Avoid contact with skin and eyes. Avoid inhalation of vapors and spray/mists. Provide adequate general and local exhaust ventilation.

Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place. Protect from freezing and direct sunlight.

Storage class Corrosive storage.

Specific end uses(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.

8. Exposure Controls/personal protection

Ingredient comments WEL = Workplace Exposure Limits

Exposure controls

Protective equipment



Appropriate engineering controls

As this product contains ingredients with exposure limits, process enclosures, local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits, if use generates dust, fumes, gas, vapor or mist.

Eye/face protection

Tight-fitting safety glasses.

Hand protection

It is recommended that chemical-resistant, impervious gloves are worn. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. It is recommended that gloves are made of the following material: Nitrile rubber.

Other skin and body protection

Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.

Hygiene measures

Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet.

Respiratory protection

If ventilation is inadequate, suitable respiratory protection must be worn. Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance Liquid.

Color Bluish.

Odor Ammonia.

pH pH (concentrated solution): 6.2-6.6

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Relative density 1.165-1.195 @ 20°C

Other information Not available.

10. Stability and reactivity

Reactivity There are no known reactivity hazards associated with this product.

Stability Stable at normal ambient temperatures and when used as recommended.

Possibility of hazardous reactions Not determined.

Conditions to avoid Avoid excessive heat for prolonged periods of time.

Materials to avoid Strong acids.

Hazardous decomposition products None at ambient temperatures.

11. Toxicological information

Information on toxicological effects

Acute toxicity - oral

ATE oral (mg/kg) 14,705.88

Acute toxicity - inhalation

ATE inhalation (gases ppm) 132,352.94

ATE inhalation (vapours mg/l) 323.53

ATE inhalation (dusts/mists mg/l) 44.12

Inhalation Vapors irritate the respiratory system.

Ingestion Causes severe burns. May cause chemical burns in mouth, esophagus and stomach.

Skin Contact Causes skin irritation. May cause an allergic skin reaction.

Eye contact Causes serious eye damage. Immediate first aid is imperative.

Acute and chronic health hazards May cause chemical eye burns.

Route of entry Ingestion Inhalation Skin and/or eye contact

Toxicological information on ingredients.

AMMONIUM FORMATE

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 2,250.0

Species Mouse

ATE oral (mg/kg) 2,250.0

CHROMIUM DENSE TRIVALENT**AMMONIA 5.6%****Acute toxicity - oral**

Acute toxicity oral (LD₅₀ mg/kg) 350.0

Species Rat

BARIUM FORMATE**Acute toxicity - oral**

Acute toxicity oral (LD₅₀ mg/kg) 11,700.0

Species Rabbit

12. Ecological Information

Ecotoxicity The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Toxicity No data available.

Acute toxicity - fish LC₅₀, 96 hours: 0.15 mg/l, Fish

Ecological information on ingredients.**CHROMIUM FORMATE**

Acute toxicity - fish LC₅₀, 96 hours: 29 mg/l, Fish

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 0.32 mg/l, Daphnia magna

Acute toxicity - aquatic plants IC₅₀, 72 hours: 5 mg/l, Algae

AMMONIA 5.6%**Acute aquatic toxicity**

LE(C)₅₀ 0.1 < L(E)C₅₀ ≤ 1

M factor (Acute) 1

Acute toxicity - fish LC₅₀, 96 hours: 0.53 mg/l, Freshwater fish
LC₅₀, 96 hours: 0.75 -3.4 mg/l, Freshwater fish
LC₅₀, 96 hours: 8.2 mg/l, Freshwater fish

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 0.66 mg/l, Daphnia magna

BARIUM FORMATE

Acute toxicity - fish LC₅₀, 96 hour: 440-706 mg/l, Carassius auratus (Goldfish)

Persistence and degradability

Persistence and degradability No data available.

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Bioaccumulative potential

Bio-Accumulative Potential The product does not contain any substances expected to be bioaccumulating.

Mobility in soil

Mobility The product is soluble in water.

Other adverse effects

Other adverse effects Not determined.

13. Disposal considerations

Waste treatment methods

General information Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

14. Transport information

General The product is not covered by international regulations on the transport of dangerous goods (IMDG,IATA,DOT)

UN Number

Not applicable.

UN proper shipping name

Not applicable.

Transport hazard class(es)

No transport warning sign required.

Packing group

Not applicable.

Environmental hazards

Environmentally Hazardous Substance

No.

Special precautions for user

Not applicable.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

US Federal Regulations

SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities
Exempt.

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)

Ammonium Hydroxide
Final CERCLA RQ: 1000 lbs

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SARA Extremely Hazardous Substances EPCRA Reportable Quantities

Exempt.

SARA 313 Emission Reporting

Ammonium Hydroxide

CAA Accidental Release Prevention

Exempt.

SARA (311/312) Hazard Categories

Acute
Chronic

OSHA Highly Hazardous Chemicals

Exempt.

US State Regulations

California Proposition 65 Carcinogens and Reproductive Toxins

Exempt.

Inventories

US - TSCA

All ingredients are present.

16. Other information

Classification abbreviations and acronyms

Acute Tox. = Acute toxicity
 Carc. = Carcinogenicity
 Eye Dam. = Serious eye damage
 Eye Irrit. = Eye irritation
 Flam. Liq. = Flammable liquid
 Muta. = Germ cell mutagenicity
 Resp. Sens. = Respiratory sensitisation
 Skin Corr. = Skin corrosion
 Skin Irrit. = Skin irritation
 Skin Sens. = Skin sensitisation
 STOT RE = Specific target organ toxicity-repeated exposure
 STOT SE = Specific target organ toxicity-single exposure

Revision date

10/16/2017

Revision

2

Hazard statements in full

H302 Harmful if swallowed.
 H314 Causes severe skin burns and eye damage.
 H315 Causes skin irritation.
 H317 May cause an allergic skin reaction.
 H318 Causes serious eye damage.
 H319 Causes serious eye irritation.
 H332 Harmful if inhaled.
 H335 May cause respiratory irritation.
 H400 Very toxic to aquatic life.
 H412 Harmful to aquatic life with long lasting effects.

NFPA - instability hazard

Normally stable. (0)

NFPA - health hazard

Extremely hazardous, serious injury. (3)

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NFPA - flammability hazard Will not burn. (0)

The Information in this data sheet is believed to be correct but neither we nor our employees or agents give any warranty or make any representation to the accuracy thereof and accept no liability for any loss, injury or damage which may result in it's use. The sole purpose of this data sheet is to provide guidance on the safe handling and use of the products to which it relates. It does not form part of any product specification nor part of any contract. It is not practical for the guidance and information in this data sheet to cover every conceivable application of a product and as we may not be aware of the use to which the products covered by this data sheet are to be put it remains the responsibility of the user to conduct it's own tests and to satisfy itself as to the suitability of the product.