

Safety Data Sheet

1. Chemical product and company identification

Product name : Chromium, Flake, 4N

Company information

Name of manufacturer : KANTO CHEMICAL CO., INC.
Address : 2-1, Nihonbashi, Muromachi 2-Chome, Chuo-Ku, Tokyo, 103-0022, JP
Name of section : Business Administration Department, Reagent Division
Telephone number : +81-3-6214-1090
Facsimile number : +81-3-3241-1047
Mail address : BC32@kanto.co.jp
Reference No : 08340

Recommended use : For research use only

Restrictions on use : Seek expert judgment when using the product for applications other than those recommended.

2. Hazards identification

GHS classification

Health hazards	Serious eye damage/eye irritation	Category 2A
	Respiratory sensitization	Category 1A
	Skin sensitization	Category 1A
	Specific target organ toxicity (single exposure)	Category 3 (respiratory tract irritation.)

Hazard pictograms



Signal word : Danger

Hazard statements : May cause an allergic skin reaction
Causes serious eye irritation
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation

Precautionary statements

Prevention : Avoid breathing dust.
Wash hands, forearms and face thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.
[In case of inadequate ventilation] wear respiratory protection.

Response : IF ON SKIN: Wash with plenty of water.
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.
Call a POISON CENTER or doctor if you feel unwell.
If skin irritation or rash occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
If experiencing respiratory symptoms: Call a POISON CENTER or doctor.
Take off contaminated clothing and wash it before reuse.
- Storage : Store in a well-ventilated place. Keep container tightly closed. Store locked up.
- Disposal : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

3. Composition/information on ingredients

Distinction of substance or mixture : Substance

Chemical name	Concentration (%)	Formula	TSCA	EC-No.	CAS RN
Chromium	≥ 99.99	Cr	Listed	231-157-5	7440-47-3

4. First aid measures

First aid measures

- First-aid measures after inhalation : Remove the victim to fresh air, and make him blow his nose and gargle.
- First-aid measures after skin contact : Wash the affected areas under running water.
- First-aid measures after eye contact : Wash the affected areas under running water.
- First-aid measures after ingestion : Give the victim water or salt water and make him vomit. Get medical attention.
- Personal Protection in First Aid and Measures : Rescuers should wear proper protective equipment like rubber gloves, goggles.

5. Fire fighting measures

- Suitable extinguishing media : This product is noncombustible.
- Unsuitable extinguishing media : None
- Firefighting instructions : Move containers from fire area if it can be done without risk, if not possible, apply water from a safe distance to cool and protect surrounding area.
- Personal protection (Emergency response) : Firefighters should wear protective equipment.

6. Accidental release measures

Personal Precautions, Protective Equipment and Emergency Procedures

- General measures : Wear proper protective equipment and avoid contact with skin and inhalation of dust. Conduct operations from upwind and evacuate people downwind.



Environmental precautions

Environmental precautions : Attention should be given to avoid damage to the environment by flowing of spillage to rivers.

Methods and Equipment for Containment and Cleaning up

For containment : Sweep up in a chemical waste container. Flush contaminated area with copious amounts of water.

7. Handling and storage**Handling**

Technical measures : Wear appropriate protective equipment to avoid contact with skin or inhalation of dust.

Precautions for safe handling : Avoid formation of dust and aerosols.

Storage

Storage conditions : Store in a dark, cool place and tightly closed.

Material used in packaging/containers : Glass, polyethylene, polypropylene.

8. Exposure controls / Personal protection equipment

ACGIH TWA	0.5 mg/m ³ (I)
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Appropriate engineering controls : Install a local ventilation system in case of dusty condition.

Protective equipment

Respiratory protection : If necessary, wear dust mask

Hand protection : Impervious protective gloves

Eye protection : Safety goggles

Skin and body protection : Protective clothing, protective boots

9. Physical and chemical properties

Physical state : Solid

Color : Silver white

Odor : Odorless

pH : No data available

Melting point : 1905 ° C

Freezing point : No data available

Boiling point : ≈ 2200 ° C

Flash point : No data available

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Flammability : Non flammable.

Vapor pressure : No data available

Relative density : 7.1888 (20°C)

Density : No data available

Relative gas density : No data available

Solubility : Water: Insoluble.



Partition coefficient n-octanol/water (log Pow)	: No data available
Explosive limits (vol %)	: No data available
Viscosity, kinematic	: No data available
Particle characteristics	: No data available

10. Stability and reactivity

Reactivity	: When ignited, it reacts directly with halogens, sulfur, carbon, silicon, boron, etc. Chromium(III) oxide is produced when heated with potassium chlorate or potassium nitrate.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: When mercury is removed from the amalgam of chromium and mercury by evaporation, pyrophoric chromium remains.
Conditions to avoid	: Light, heat.
Incompatible materials	: Acids, oxidizing substances.
Hazardous decomposition products	: Chromium oxides.

11. Toxicological information

Acute toxicity (oral)	: Classification not possible
Acute toxicity (dermal)	: Classification not possible
Acute toxicity (inhalation)	: No classification (gas) Classification not possible (vapor) Classification not possible (dust, mist)
Skin corrosion/irritation	: Classification not possible The surface of metallic chromium is coated with chromium oxide. Since it was judged to be non-irritating in a skin irritation test using a rabbit with chromium oxide conforming to OECD TG 404, it is considered that this substance is also not irritating.
Serious eye damage/irritation	: Causes serious eye irritation Based on the description that "particles of this substance may irritate the eyes", it was classified into category 2A.
Respiratory sensitization	: May cause allergy or asthma symptoms or breathing difficulties if inhaled. The Japan Society for Occupational Health classifies chromium or its compounds into the group 2 of airway sensitizers. Based on the above, it was classified into category 1A.
Skin sensitization	: May cause an allergic skin reaction The Japan Society for Occupational Health classifies chromium or its compounds into the group 1 of skin sensitizers. Based on the above, it was classified into category 1A.
Germ cell mutagenicity	: Classification not possible As for in vivo, exposure to fume has been reported to be positive in the rat peripheral blood lymphocyte micronucleus test and sister chromatid exchange test, and negative in the rat bone marrow micronucleus test. However, in these tests, it has been pointed out that the substance may have been oxidized during the process of fume formation. As for in vitro, there are no standard test data, but there are negative reports in transformation tests of cultured mammalian cells.
Carcinogenicity	: No classification IARC classifies "chromium, metallic" as group 3 (not classifiable as to its carcinogenicity to humans).



Reproductive toxicity	: Classification not possible Since there is no data on metallic chromium, it is not possible to classify due to lack of data. The Japan Society for Occupational Health classifies chromium and chromium compounds into group 3 (corresponding to category 2) of reproductive toxicity substances. However, this reproductive toxicity classification is based on data on the reproductive toxicity of Cr(III) and Cr(VI), with no reports on the reproductive toxicity of metallic chromium.
STOT-single exposure	: May cause respiratory irritation This substance may cause irritation of the upper and lower respiratory tracts when inhaled. The aerosol of this substance stimulates the upper respiratory tract. Based on the above, it was classified into category 3 (respiratory tract irritation).
STOT-repeated exposure	: Classification not possible
Aspiration hazard	: Classification not possible

12. Ecological information

Ecotoxicity

Aquatic acute	: Classification not possible
Aquatic chronic	: Classification not possible

Persistence and degradability

No additional information available

Bioaccumulative potential

No additional information available

Mobility in soil

No additional information available

Hazardous to the ozone layer

Ozone	: Classification not possible
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13. Disposal considerations

Ecological waste information	: Solidification method : Solidify with cement and bury in a landfill site approved for hazardous waste disposal. Or entrust approved waste disposal companies with the disposal.
Contaminated container and packaging	: In case of disposal of empty bottles, dispose bottles after removing the content thoroughly.

14. Transport information

International Regulations

Transport by sea(IMDG)

UN-No. (IMDG)	: Not applicable
Proper Shipping Name (IMDG)	: Not applicable
Packing group (IMDG)	: Not applicable
Transport hazard class(es) (IMDG)	: Not applicable

Air transport(IATA)

UN-No. (IATA)	: Not applicable
Proper Shipping Name (IATA)	: Not applicable



Packing group (IATA) : Not applicable
Transport hazard class(es) (IATA) : Not applicable
Marine pollutant : Not applicable

15. Regulatory information

Regulatory information with regard to this substance in your country or region should be examined by your own responsibility.

16. Other information

Data sources : Encyclopaedia Chimica, Kyoritsu Shuppan Co, Ltd. (1963) .
Handbook of dangerous and hazardous chemicals, Japan
Industrial Safety & Health Association. (2000-2001) .
Handbook of 17322 Chemical Products, The Chemical Daily Co.
(2022) .
NITE Chemical Risk Information Platform (NITE-CHRIP), National
Institute of Technology and Evaluation.

The information contained herein is based on several references and the present state of our knowledge. However the SDS does not always cover all information about the product, handle the product carefully. The information is intended to ordinary usage, in case of particular handlings, conduct appropriate safety measurements. The information herein is only provision of information, and it does not represent a guarantee the properties of the product. The Safety Data Sheet (SDS) is prepared based on JIS Z7253.

