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Safety Data Sheet

1. Chemical product and company identification

Product name : Tungsten, Lump, 5N

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	:	41179
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 2B
	Specific target organ toxicity (single exposure)	Category 3 (respiratory tract irritation.)

Hazard pictograms

Signal word : Warning

Hazard statements : Causes eye irritation
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.

Response : 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 eye irritation persists: Get medical advice/attention.

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
Tungsten	≥ 99.999	W	Listed	231-143-9	7440-33-7

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) : Wear breathing apparatus.

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	3 mg/m³ (R)

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	:	Gray - black gray
Odor	:	Odorless
pH	:	No data available
Melting point	:	3410 ° C
Freezing point	:	No data available
Boiling point	:	5900 ° C
Flash point	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability	:	Not flammable.
Vapor pressure	:	No data available
Relative density	:	18.7 - 19.3 (20/4℃)
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	:	The powder is oxidized at 300℃ or higher to become tungsten(VI) oxide. Heating with fluorine, chlorine and bromine produces the corresponding tungsten(VI) halide.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous	:	May react violently when in contact with oxidaizing substances.

reactions		
Conditions to avoid	:	Light, heat.
Incompatible materials	:	Oxidizing substances.
Hazardous decomposition products	:	fume.

11. Toxicological information

Acute toxicity (oral)	:	Classification not possible
Acute toxicity (dermal)	:	Classification not possible
Acute toxicity (inhalation)	:	No classification (gas) No classification (vapor) Classification not possible (dust, mist)
Skin corrosion/irritation	:	Classification not possible May cause skin irritation.
Serious eye damage/irritation	:	Causes eye irritation There is a report that in an eye irritation test with rabbits, as a result of an application of 100 mg of this substance, mild conjunctival irritation was observed. From the above, it was classified into category 2B.
Respiratory sensitization	:	Classification not possible Besides, among workers exposed to hard alloy dust, asthma caused by this substance was reported.
Skin sensitization	:	Classification not possible
Germ cell mutagenicity	:	Classification not possible
Carcinogenicity	:	Classification not possible
Reproductive toxicity	:	Classification not possible Besides, as for soluble sodium tungstate, as a result of a reproductive toxicity test with rats by the oral route, no adverse effect on fertility and sexual function was indicated, however, since there is not enough information for evaluation of developmental toxicity effects, it was classified as "Classification not possible" due to lack of data.
STOT-single exposure	:	May cause respiratory irritation This substance is irritating to the respiratory tract. As for humans, there is one case of accidental drinking of a mixture containing this substance. However, it could not be used for classification since it was not possible to judge if the symptoms were due to only this substance. As for experimental animals, in a test where guinea pigs were orally dosed, anorexia, coordination ataxia, tremor and dyspnea were observed, however, since it was a very old report from 1924, and there was no follow-up data for these findings, they were not adopted. From the above, it was classified into category 3 (respiratory tract irritation).

STOT-repeated exposure	:	Classification not possible In humans, there is a report that among workers who had been exposed for a long term in 3 factories in which the average tungsten concentrations were 6 mg/m3 or less and the highest concentration was 36.9 mg/m3, irritation of the nose or skin was observed, but no effects on pulmonary functions nor pneumoconiosis were found. Also, there is a report that on examination of workers occupationally exposed at tungsten concentrations of 5 mg/m3 or less for a long term, no pneumoconiosis was observed in exposure to tungsten or insoluble tungsten compounds alone. On the other hand, there is a report that pulmonary fibrosis was found in 9-10% of employees exposed to only tungsten. As for experimental animals, there is a report that in a test where guinea pigs were dosed intratracheally at 50 mg/week for 3 weeks, relatively inert though, interstitial cellular proliferation was observed in the lung, and even after one year, the effect persisted. As above, there is no consistency in effects on the human respiratory system, and there is no data on experimental animals which are available for classification. Therefore, it was classified as "Classification not possible" due to lack of data.
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

13. Disposal considerations

Ecological waste information	:	Bury in a landfill site approved for the disposal of chemical and hazardous wastes. 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) . 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.