

Product name: Stainless steel in various manufactured forms
Document Nr.: SDS00115225050-01

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Section 1: Identification of the substance or mixture and the company

1.1. Product Identifier

Stainless steel alloys in various manufactured forms
The substance is not subject to registration according to REACH

1.2 Relevant applications of the material and uses advised against

Tweezers, scissors, stubs, needles, probes, blades, blade holders etc.

1.3. Company details

Rave Scientific
100 Franklin Square Dr.
Suite 101
Somerset, NJ 08873
Telephone: 1-732-898-3828
Email: info@ravescientific.com
Web: www.ravescientific.com

1.4 Emergency telephone number

Rave Scientific: 1-732-898-3828

Section 2: Hazards identification

2.1. Classification of the substance or mixture according to Regulation EC Nr. 1272/2008

Stainless steel is considered an article and not hazardous in its solid form. However, certain processes such as cutting, milling, grinding, melting, and welding could result in some hazardous materials being emitted. The following information is for the hazardous elements which may be emitted during these processes.

| | |
|------------------|---|
| Physical: | Not classified |
| Health: | Skin sensitisation, category 1, H317 May cause allergy or asthma symptoms or breathing difficulties if inhaled, Category 1, H334 Carcinogenicity, category 2, H351 |

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Flammability: 0
Environment: Not classified
Other hazards: Suspected of damaging the unborn child, category 1, H361d
Specific target organ toxicity (repeated exposure), category 1, H372

2.2 Labeling elements

Labelling accordance to Regulation EC. Nr 1272/2008



GHS08



GHS07

Hazard pictogram(s):

Signal word:

Danger

Hazard statements:

H317: May cause an allergic skin reaction
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
H351: Suspected of causing cancer
H361d: Suspected of damaging the unborn child
H372: Causes damage to organs (respiratory system, skin) through prolonged or repeated exposure

Precautionary statement(s)

Prevention:

P280: Wear eye protection, face protection, protective clothing, protective gloves
P302+P352: If on skin: Wash with plenty of water
P308+P340: If exposed or concerned: Get medical advice/attention:
P333+P313: If skin irritation or rash occurs: Get medical advice/attention

2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, the substance is not a PBT or a vPvB

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Section 3: Composition / information on components

3.1. Substances

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3.2 Mixtures

| Component | Symbol | CAS Number | Wt% percent |
|------------|----------------------|------------|-------------|
| Iron | Fe | 7439-89-6 | 30-90 |
| Chromium | Cr | 7440-47-3 | 0-40 |
| Nickel | Ni | 7440-02-2 | 8-30 |
| Manganese | Ma | 7439-96-5 | 0-15 |
| Molybdenum | Mo | 7429-98-7 | 0-6 |
| Copper | Cu | 7440-50-8 | 0-5 |
| Silicon | Si | 7440-21-3 | 0-3 |
| Aluminium | Al | 7429-90-5 | 0-3 |
| Cobalt | Co | 7440-48-4 | 0-10 |
| Titanium | Ti | 7440-32-6 | 0-3 |
| Vanadium | Va | 1314-62-1 | 0-5 |
| Tungsten | W | 7440-33-7 | 0-5 |
| Carbon | C | 7440-44-0 | 0-1.5 |
| Sulphur | S as SO ₂ | 7446-09-5 | 0-0.5 |
| Niobium | Nb | 7440-03-1 | 0-5 |
| Tantalum | Ta | 7440-25-7 | 0-5 |
| Lead | Pb | 7439-92-1 | Trace |

Section 4: First aid measures

4.1. Description of first aid measures

Contact with eyes: Rinse cautiously with water for several minutes. If possible, remove contact lenses. Continue rinsing.

Contact with skin: Wash with water and soap.
Seek medical attention if irritation persists.

Inhalation: Fresh air, keep warm and at rest.
Seek medical attention if ill effects occur

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Ingestion: If swallowed, do not induce vomiting
Seek immediate medical advice

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4.2. Important symptoms and effects, either immediate or delayed

Skin contact: May an allergic skin reaction, rash.

4.3. Indication of any immediate medical attention and special treatment

General advice: If you feel unwell, seek medical advice; show product label if possible
If symptoms persist, always call a doctor

Section 5: Firefighting Measures

5.1. Extinguishing media

Foam, dry extinguishing powder, ABC powder. Do not use water or water jet

5.2 Special hazards arising from the substance or mixture

Not applicable for solid product. Toxic metal oxide fumes may arise from dust.

5.3 Advice to firefighters

Fight fire from a safe distance, with adequate cover
Do not move the load if exposed to heat.
In case of fire: do not breathe fumes
Wear self-contained breathing apparatus for fire fighting

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Not applicable to stainless steel in solid form. Avoid dust formation.
Ensure adequate ventilation. Wear protective clothing.

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6.2 Environmental precautions

Do not allow to enter public sewers and waterways

6.3 Methods and material for containment and clean up

Pick up mechanically. Control dust

6.4 Reference to other sections

For further information see section 7, 8 and 13.

Section 7: Handling and storage

7.1. Precautions for safe handling

Avoid creating or accumulating dust or fine particles
Wash hands before breaks and after work

7.2 Conditions for safe storage, including any incompatibilities

No special storage conditions for stainless steel in solid form

7.3 Specific end uses(s)

Not required

Section 8: Exposure control and personal protection

8.1. Control parameters

Occupational exposure limits (OEL)

There are no exposure limits for solid stainless steel. The exposure limit for iron containing fumes Has been established at 5mg/m³. The individual complex compounds with the fume may have lower exposure limits than the general fume. (Contd. on page 6)

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8.2 Exposure controls

Control procedures: Avoid creating or accumulating dust or fine particles
Wash hands before breaks and at the end of the work
Maintain appropriate working environment

Personal protection: Protective work clothing

Inhalation: Use breathing protection with high concentrations

Hands and skin: Suitable gloves

Eyes: Wear safety goggles with side protection or full-face protection

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance/physical state: Solid in various forms

Colour: Silver-gray metallic

Odour: None

pH: Not applicable

Melting point/range: 1260 - 1535°C

Boiling point/range: Not applicable

Flash point: Not determined

Evaporation rate: Not available

Explosion limits: upper limit: Not determined
lower limit: Not determined

Vapour pressure: Not applicable

Relative density: 7.6 – 8.0 g/cm³ @ 20°C

Solubility in water: Insoluble

Auto-ignition: Not determined

Viscosity: Not applicable

9.2 Other information

There is no additional information

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Section 10: Stability and reactivity

10.1. Reactivity

No hazardous reactions known if used for its intended purposes

10.2 Chemical stability

Stable under recommended storage conditions

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

Contact with mineral acid. Dust formation.

10.5 Incompatible materials

Oxidisers, strong acids

10.6 Hazardous decomposition products

Metal oxide fume

Section 11: Toxicological information

11.1. Information on toxicological effects

Information hazard classes as defined in Regulation (EC) Nr. 1272/2008

| | |
|--------------------------------|---|
| Inhalation: | Shal not be classified as aspiration hazard |
| Skin contact: | May cause an allergic skin reaction |
| Eye contact: | Shall not classified as seriously damaging to the eye or eye irritant |
| Sensitisation: | May cause an allergic reaction in sensitized individuals |
| Germ cell mutagenicity: | Shal not be classified as germ cell mutagenic |
| Carcinogenicity: | Suspected of causing cancer |

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Reproductive toxicity: Shall not be classified as reproductive toxicant

Specific target organ toxicity – single exposure: Shall not be classified as specific organ toxicant

Specific target organ toxicity – repeated exposure: Causes damage to organs (respiratory system, skin) through prolonged or repeated exposure

Toxicological data: Not considered toxic in its solid form.

Symptoms related to the physical, chemical and toxicological characteristics:

- If swallowed:** data are not available
- If in eyes:** data are not available
- If inhaled:** data are not available
- If on skin:** May produce an allergic reaction.

Other information: none

11.2. Endocrine disrupting properties

Not listed

11.3. Information on other hazards

There is no additional information

Section 12: Ecological information

12.1. Aquatic toxicity

Shall not be classified as hazardous to the aquatic environment.

12.2 Persistence and degradability

No information available

12.3 Bio-accumulative potential

Does not significantly accumulate in organisms.

12.4 Mobility in soil

Data are not available

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12.5 Results of PBT and vPvB assessment

Data are not available

12.6 Endocrine disrupting properties

Not listed

12.7 Other adverse effects

Data are not available

Section 13: Disposal considerations

13.1. Waste treatment methods

Product: Stainless steel scrap should be recycled whenever possible
Do not discharge into drains or the environment, dispose to an authorised waste collection point.
National regulations: Disposal should be in accordance with local, state or national legislation.

Section 14: Transport information

14.1. UN number

UN-number: not subject to transport regulations

14.2 UN proper shipping name

Proper shipping name: Not assigned

14.3 Transport hazard class(es)

Class: None
ADR/RID-Classification code: None

14.4 Packing group

Packing: Not assigned

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14.5 Environmental Hazards

Non-environmentally hazardous according to dangerous goods regulations.

14.6 Special precautions for user

There is no additional information

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC code

Not applicable

14.8 Information for each of the UN Model Regulations

Transport of dangerous goods by road, rail and inland waterways: Not subject to ADR, RID and AND
International maritime dangerous goods code (IMDG): Not subject to IMDG
International civil aviation organization (ICAO-IATA/DGR): Not subject to ICAO-IATA

Section 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

No additional information available

15.2 Chemical safety assessment

List of substances to authorization (REACH, Annex XIV)/SVHC – candidate list: not listed

Section 16: Other information

RoHS Directive Compliant

This product is fully compliant with the directive 2100/65/EU Annex II (RoHS). It does not contain any lead, cadmium, mercury, hexavalent chromium, PBB's or PBDE's.

WEEE

The product is not a piece of electrical or electronic equipment, and it therefore not governed by Directive 2002/96/EC on waste electrical and electronic equipment (WEEE)

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Abbreviations:

| | |
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| Asp. Tox | Aspiration hazard |
| Carc. | Carcinogenicity |
| ErC50 | Concentration resulting in a 50% reduction in growth rate with 72 hrs exposure |
| EC50 | Half maximal concentration which induces a response halfway between baseline and maximum effect |
| Exp. | Exposure |
| Flam. | Flammable |
| GHS | Global Harmonised System of Classification of Labelling Chemicals |
| Irrit. | Irritant |
| N/A | Not applicable |
| N/E | Not estimated |
| NOEC | No observed effect concentration |
| LC50 | Lethal dose single exposure to causing 50% lethality |
| LD50 | Lethal dose 50% corresponds to causing 50% lethality during a specific time |
| PBT | Persistent Bio-accumulative and Toxic |
| WEL | Workplace Exposure Limit |
| Repr. | Reproductive toxicant |
| RoHS | Restriction of Hazardous Substance |
| SVHC | Substance of very high concern |
| VOC | Volatile organic compound |
| vPvB | very Persistent and very Bio-accumulative |
| WEEE | Waste Electrical and Electronic Equipment |

Relevant phrases

- H317 - May cause an allergic skin reaction
- H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
- H351 - Suspected of causing cancer
- H361d - Suspected of damaging the unborn child
- H372 - Causes damage to organs (respiratory system, skin) through prolonged or repeated exposure

This product should be stored, handled and used in accordance with good industrial hygiene practices and in accordance with any legal regulation.

The information contained herewith is based on the present state of our knowledge and is intended to describe the product from the point of view of safety requirements. It does not guarantee any specific properties.

It is the responsibility of the user to query and verify any information seeming suspect or where doubt on the validity may exist. The buyer assumes all responsibility of using and handling the product in accordance with local, state, federal and international regulations.

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