1. Product and company identification

Product identifier

Trade name: GRITTAL

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

General use: As a blasting agent.
For industrial purposes only.

Details of the supplier of the safety data sheet

Company name: VULKAN INOX GmbH
Street/POB-No.: Gottwaldstraße 21
Postal Code, city: 45525 Hattingen
Germany
WWW: www.vulkan-inox.de
Telephone: +49 (0) 2324-5616 0
Telefax: +49 (0) 2324-53470

Department responsible for information:
Telephone: 800-263-7674, E-mail: vulkan@vulkanshot.com

Additional information: Distribution:
Company name: Vulkan Blast Shot
Street/POB-No.: 2-10 Plant Farm Blvd.
Postal Code, city: Brantford, Ontario
Country: Canada
WWW: www.vulkanshot.com
Telephone: 800-263-7674

Emergency phone number

Telephone: 800-263-7674
Only available during office hours.

2. Hazards identification

Emergency overview

Appearance: Physical state at 68 °F and 101.3 kPa: solid
Form: powder/granulate
Color: metallic silver gray

Odor: Odorless

Classification: This material is classified as not hazardous.

Regulatory status

This material is not considered hazardous by the U.S. OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards not otherwise classified

The substance should only be handled in closed apparatus or systems.
Vapors / Dust should be exhausted directly at the point of origin.
Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat.
Particular danger of slipping on spilled product on the ground.
see section 11: Toxicological information

3. Composition / Information on ingredients

Chemical characterization: Chromium-alloy

Relevant ingredients:

CAS No.	Designation	Concentration	Classification
CAS 7439-89-6	Iron	>= 69 %	not classified
CAS 7440-47-3	Chromium	30 - 33 %	not classified
CAS 7440-44-0	Carbon	< 2.5 %	not classified
CAS 7440-21-3	Silicon	< 2 %	not classified
CAS 7439-96-5	Manganese	< 1.5 %	not classified
CAS 7440-02-0	Nickel, powder	< 0.5 %	Sensitization - skin - Category 1. Carcinogenicity - Category 2. Specific Target Organ Toxicity (Repeated Exposure) - Category 1. Aquatic toxicity - chronic - Category 3.

4. First aid measures

In case of inhalation: Move victim to fresh air. Seek medical treatment in case of troubles.

Following skin contact: Immediately clean with water and soap followed by thorough rinsing.
In case of skin reactions, consult a physician.
Take off contaminated clothing and wash it before reuse.

After eye contact: Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart.
Remove contact lenses, if present and easy to do. Continue rinsing. Consult an ophthalmologist.

After swallowing: Rinse mouth immediately and drink plenty of water. Consult physician.
Never give anything by mouth to an unconscious person. Do not induce vomiting.

Most important symptoms/effects, acute and delayed

May cause allergic reactions in already sensitized persons.
Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat.

Information to physician

Treat symptomatically.

5. Fire fighting measures

Flash point/flash point range: Not applicable

Auto-ignition temperature: Not self-igniting

Suitable extinguishing media: The product itself does not burn. Extinguishing is to be in accordance with the surrounding fire.

Extinguishing media which must not be used for safety reasons:
Water

Specific hazards arising from the chemical

May form dangerous gases and vapors in case of fire.
Furthermore, there may develop: Toxic metal oxide smoke, carbon monoxide and carbon dioxide.

Protective equipment and precautions for firefighters:
Wear self-contained breathing apparatus.

Additional information: Do not allow water used to extinguish fire to enter drains, ground or waterways.
You have to dispose of contaminated extinguishing water according to the regulations of the authorities.

6. Accidental release measures

Personal precautions: Avoid exposure. Provide adequate ventilation. Avoid generation of dust.
Do not breathe dust. If possible, eliminate leakage. Wear appropriate protective equipment.
Take off contaminated clothing and wash it before reuse. Keep unprotected people away.

Environmental precautions: Discharge into the environment must be avoided.

Methods for clean-up: Take up mechanically. Dispose of in accordance with the regulations or material recycling.
Do not use air pressure.

Additional information: Particular danger of slipping on spilled product on the ground.

7. Handling and storage

Handling

Advices on safe handling: Obtain special instructions before use.
The substance should only be handled in closed apparatus or systems.
Provide adequate ventilation, and local exhaust as needed. Avoid generation of dust.
Vapors / Dust should be exhausted directly at the point of origin.
Do not breathe dust. Wear appropriate protective equipment. Take off contaminated clothing and wash it before reuse.
Avoid contact with skin and eyes.
Have eye wash bottle or eye rinse ready at work place.

Storage

Requirements for storerooms and containers:
Keep container dry.

Hints on joint storage: Keep away from food, drink and animal feedingstuffs.
Do not store together with acids.

8. Exposure controls / personal protection

Exposure guidelines

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
7439-89-6	Iron	USA: ACGIH: TWA	10 mg/m³ (smoke, dust)
		USA: OSHA: TWA	10 mg/m³ (Smoke)
7440-47-3	Chromium	USA: ACGIH: TWA	0.5 mg/m³ (inhalable fraction)
		USA: IDLH: TWA	250 Cr(II)/m3
		USA: NIOSH: TWA	0.5 mg/m³
		USA: OSHA: TWA	0.5 mg/m³
7440-44-0	Carbon	USA: ACGIH: TWA	10 mg/m³ (Dust limit value, inhalable fraction)
		USA: ACGIH: TWA	3 mg/m³ (Dust limit value, respirable fraction)
		USA: OSHA: TWA	15 mg/m³ inhalable fraction
		USA: OSHA: TWA	5 mg/m³ (respirable fraction)
7440-21-3	Silicon	USA: NIOSH: TWA	10 mg/m³ inhalable fraction
		USA: NIOSH: TWA	5 mg/m³ (respirable fraction)
		USA: OSHA: TWA	15 mg/m³ inhalable fraction
		USA: OSHA: TWA	5 mg/m³ (respirable fraction)
7439-96-5	Manganese	USA: ACGIH: TWA	0.02 mg/m³ (respirable fraction)
		USA: ACGIH: TWA	0.1 mg/m³ (inhalable fraction)
		USA: IDLH: TWA	500 Mn/m3
		USA: NIOSH: STEL	3 mg/m³
		USA: NIOSH: TWA	1 mg/m³
		USA: OSHA: Ceiling	5 mg/m³
7440-02-0	Nickel, powder	USA: ACGIH: TWA	1.5 mg/m³ (metal, inhalable fraction)
		USA: NIOSH: TWA	0.015 mg/m³
		USA: OSHA: TWA	1 mg/m³ (Nickel and compounds)

Biological limit values:

CAS No.	Designation	Type	Limit value	Parameter	Sampling
7440-47-3	Chromium	USA: ACGIH-BEI, urine	0.7	Total Chromium	end of shift at end of workweek

Additional information: Limiting values are only defined for the above-mentioned material, whereas no such limits have been established for alloys made out of it.

Engineering controls

The substance should only be handled in closed apparatus or systems.
Provide adequate ventilation, and local exhaust as needed.
Vapors / Dust should be exhausted directly at the point of origin.
See also information in chapter 7, section storage.

Personal protection equipment (PPE)

Eye/face protection: Tightly sealed goggles according to OSHA Standard - 29 CFR: 1910.133 or ANSI Z87.1-2010.

Skin protection: Wear suitable protective clothing.

Protective gloves according to OSHA Standard - 29 CFR: 1910.138.
Glove material: Nitrile rubber-Breakthrough time: > 480 min.
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Respiratory protection: Respiratory protection must be worn whenever the TLV (WEL) levels have been exceeded.
In case of inadequate ventilation wear respiratory protection.
Use filter type FFP2 according to OSHA Standard - 29 CFR: 1910.134 or ANSI Z88.2. The filter class must be suitable for the maximum contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

General hygiene considerations: Obtain special instructions before use.
When using do not eat, drink or smoke.
Avoid generation of dust. Do not breathe dust. Do not get in eyes, on skin, or on clothing.
Take off contaminated clothing and wash it before reuse.
Wash hands before breaks and after work.
Have eye wash bottle or eye rinse ready at work place.

Environmental exposure controls

Discharge into the environment must be avoided.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance: Physical state at 68 °F and 101.3 kPa: solid
Form: powder/granulate
Color: metallic silver gray

Odor: Odorless

Odor threshold: No data available

pH: Not applicable

Melting point/freezing point: 2552 - 2822 °F

Initial boiling point and boiling range: No data available

Flash point/flash point range: Not applicable

Evaporation rate: No data available

Flammability: No data available

Explosion limits: No data available

Vapor pressure: No data available

Vapor density: No data available

Density: at 68 °F: 7.7 - 8.1 g/cm³

Water solubility: Insoluble

Partition coefficient: n-octanol/water:	No data available
Auto-ignition temperature:	Not self-igniting
Thermal decomposition:	No data available
Oxidizing characteristics:	Not combustible
Bulk density:	at 68 °F: 4.1 g/cm³
Additional information:	Particle size: > 50 µm

10. Stability and reactivity

Reactivity: With exposure to acids, product will release hydrogen.

Chemical stability: Stable under recommended storage conditions.

Possibility of hazardous reactions:
No hazardous reaction when handled and stored according to provisions.

Conditions to avoid: No data available

Incompatible materials: Acids

Hazardous decomposition products:
No hazardous decomposition products when regulations for storage and handling are observed.

Thermal decomposition: No data available

11. Toxicological information

Toxicological tests

Toxicological effects: The statements are derived from the properties of the single components. No toxicological data is available for the product as such.

Acute toxicity (oral): Lack of data.

Acute toxicity (dermal): Lack of data.

Acute toxicity (inhalative): Lack of data.

Skin corrosion/irritation: Lack of data.

Serious eye damage/irritation: Lack of data.

Sensitisation to the respiratory tract: Lack of data.

Skin sensitisation: Based on available data, the classification criteria are not met.
Contains Nickel. May produce an allergic reaction.
expert judgement and weight of evidence determination

Germ cell mutagenicity/Genotoxicity: Lack of data.

Carcinogenicity: Based on available data, the classification criteria are not met.
expert judgement and weight of evidence determination

Reproductive toxicity: Lack of data.

Effects on or via lactation: Lack of data.

Specific target organ toxicity (single exposure): Lack of data.

Specific target organ toxicity (repeated exposure): Lack of data.

Aspiration hazard: Lack of data.

Other information:

Chromium:
IARC Rating: Group 3
OSHA Carcinogen: not listed
NTP Rating: not listed
Nickel:
IARC Rating: Group 2B
OSHA Carcinogen: not listed
NTP Rating: listed

Symptoms

In case of inhalation:
Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat.
After eye contact:
Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat.

12. Ecological information

Ecotoxicity

Further details: No data available

Mobility in soil

No data available

Persistence and degradability

Further details: Methods for the determination of biodegradability are not applicable to inorganic substances.

Additional ecological information

General information: Discharge into the environment must be avoided.

13. Disposal considerations

Product

Recommendation: Material recycling.

Package

Recommendation: Non-contaminated packages may be recycled.
Dispose of waste according to applicable legislation.

14. Transport information

UN number

ADR/RID, IMDG, IATA-DGR: not applicable

UN proper shipping name

ADR/RID, IMDG, IATA-DGR: Not restricted

Transport hazard class(es)

ADR/RID, IMDG, IATA-DGR: not applicable

Packing group

ADR/RID, IMDG, IATA-DGR: not applicable

Environmental hazards

Marine pollutant: no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No data available

USA: Department of Transportation (DOT)

Proper shipping name: Not restricted

Sea transport (IMDG)

Proper shipping name: Not restricted
Marine pollutant: no

Air transport (IATA)

Proper shipping name: Not restricted

Further information

No dangerous good in sense of these transport regulations.

15. Regulatory information

National regulations - U.S. Federal Regulations

Iron:
TSCA Inventory: listed
TSCA HPVC: not listed

Chromium:
TSCA Inventory: listed
TSCA HPVC: not listed
Carcinogen Status:
IARC Rating: Group 3
OSHA Carcinogen: not listed
NTP Rating: not listed
Clean Water Act:
Priority Pollutant: yes
Other Environmental Laws:
CERCLA: RQ 5000 lbs.
RCRA Hazardous Wastes: Code D007
RCRA Groundwater Monitoring: Methods 6010, 7190, 719 / PQL 70, 500, 10
SARA Title III Section 313, Toxic Release: Conc. 0.1% / Threshold Standard
NIOSH Recommendations:
Occupational Health Guideline: 0141

Carbon:
TSCA Inventory: listed
TSCA HPVC: not listed
NIOSH Recommendations:
Occupational Health Guideline: 0307

Silicon:
TSCA Inventory: listed
TSCA HPVC: not listed
NIOSH Recommendations:
Occupational Health Guideline: 0554

Manganese:
TSCA Inventory: listed
TSCA HPVC: not listed
Other Environmental Laws:
SARA Title III Section 313, Toxic Release: Conc. 1.0% / Threshold Standard
NIOSH Recommendations:
Occupational Health Guideline: 0379*

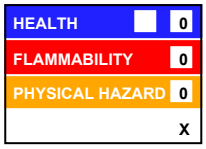
Nickel, powder:
TSCA Inventory: listed
TSCA HPVC: not listed
Carcinogen Status:
IARC Rating: Group 2B
OSHA Carcinogen: not listed
NTP Rating: listed
Clean Water Act:
Priority Pollutant: yes
Other Environmental Laws:
CERCLA: RQ 100* lbs.
RCRA Groundwater Monitoring: Methods 6010, 7520 / PQL 50, 400
SARA Title III Section 313, Toxic Release: Conc. 0.1% / Threshold Standard
NIOSH Recommendations:
Occupational Health Guideline: 0445*

16. Other information

Hazard rating systems:

NFPA Hazard Rating:
Health: 0 (Minimal)
Fire: 0 (Minimal)
Reactivity: 0 (Minimal)

HMIS Version III Rating:
Health: 0 (Minimal)
Flammability: 0 (Minimal)
Physical Hazard: 0 (Minimal)
Personal Protection: X = Consult your supervisor



Abbreviations and acronyms:
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
Aquatic toxicity - chronic: Hazardous to the aquatic environment - chronic
AS/NZS: Australian Standards/New Zealand Standards
Carcinogenicity: Carcinogenicity
CAS: Chemical Abstracts Service
CFR: Code of Federal Regulations
CLP: Classification, Labelling and Packaging
DMEL: Derived minimal effect level
DNEL: Derived no-effect level
EC: European Community
EN: European Standard
EQ: Excepted quantities
IATA: International Air Transport Association
IATA-DGR: International Air Transport Association – Dangerous Goods Regulations
IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IMDG Code: International Maritime Dangerous Goods Code
MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
OEL: Occupational Exposure Limit Value
OSHA: Occupational Safety and Health Administration
PBT: Persistent, bioaccumulative and toxic
PNEC: Predicted no-effect concentration
RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail
Sensitization - skin: Skin sensitisation
STOT RE: Specific target organ toxicity - repeated exposure
TLV: Threshold Limit Value
TRGS: Technical Rules for Hazardous Substances
vPvB: Very persistent and very bioaccumulative
WEL: Workplace Exposure Limit

Reason of change:
Changes in section 2: labeling, classification
General revision

Date of first version:
5/26/2009

Department issuing data sheet

Contact person:
see section 1: Department responsible for information

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.