

Material Safety Data Sheet (MSDS)

Cold Rolled Steel Sheet (CR)



Section 1. Chemical Product and Company Identification

Product name: Cold-Rolled Steel Sheet

General characteristics: White or gray solid that is stable in room temperature, under normal pressure

Hazards classification: Hazardous material

Used for: Cars, electrical home appliances, etc.

Manufacturer:

Dongbu Steel

333, Godae-ri, Songak-myeon, Dangjin-gun, Chungcheongnam-do

590-1, Gajwa-dong, Seo-gu, Incheon

Supplier/distributor information: Same as above

Prepared by: Quality Management Team, Technology Division, Dongbu Steel

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Section 2. Composition/ Information on ingredients

Ingredient name	Element symbol	wt, (%)	CAS number
Iron	Fe	Remainder	7439-89-6
Carbon	C	Max 0.13%	7440-44-0
Silicon	Si	Max 0.035%	7440-21-3
Manganese	Mn	Max 1.00%	7439-96-5
Phosphorus	P	Max 0.035%	7723-14-0
Sulfur	S	Max 0.035%	7704-34-9
Aluminum	Al	Max 0.08%	7429-90-5
Nitrogen	N	Max 0.07%	7727-37-9
Titanium	Ti	Max 0.09%	7440-32-6
Niobium	Nb	Max 0.03%	7440-03-01
Chrome	Cr	Max 0.08%	7440-47-3
Boron	B	Max 0.02%	7440-42-8

Section 3. Hazards identification

Acute effects: There is little or no immediate fire or explosion danger when stored in bulk conditions.

Eye: Causes irritation

Skin: Causes irritation

Inhalation: Causes respiratory irritation, metal fume fever, difficulty in breathing

Ingestion: Causes gastro enteric problems

Chronic effects: At this time, there is no data available on serious side effects

Section 4. First aid measures

Eye contact: Flush with large amounts of clean water or saline solution to completely remove the chemical material. Seek medical attention if irritation persists

Skin contact: Remove contaminated clothing immediately. Wash affected areas with soap and water.

Inhalation: Remove exposed person to fresh air. Administer artificial respiration if necessary. Seek immediate medical attention. Metal fume fever may be treated by bed rest and administering a pain and fever reducing medication.

Ingestion: If the person affected is vomiting, place his/her head lower than his/her hips to prevent obstruction of the airway. Seek medical attention if necessary.

Doctors' suggestions: No particular suggestion

Section 5. Fire-fighting measures

Flash point: No data available

Auto-ignition temperature: No data available

Explosion (burning) rate (minimum/maximum): No data available

Flammability classification and regulations on Fire Services Act: Not applicable

Extinguishing media: Dolomite, dry powders for metal fire

Extinguishing method and equipment: Unauthorized persons may not enter. Use the extinguishing media appropriate for surrounding materials.

Hazardous combustion products: No data available

Extinguishing media that should not be used: No data available

Section 6. Accidental release measures

Measures to protect human bodies: No data available

Measures to protect environment: No data available

Purification or Disposal: Remove the residue with a high-efficiency vacuum cleaner

Section 7. Handling and storage

Handling precautions: Store and handle the product according to applicable laws and regulations.

Storage requirements: Store away from incompatible materials.

Section 8. Exposure controls/personal protection

Engineering controls: Install local exhaust ventilation systems to minimize airborne concentrations.

Respiratory protection: For frequent or over-exposure, a respiratory protective device is required. Respiratory protection is classified from minimum to maximum densities. Consider warnings and characteristics prior to respirator use.

Eye protection: Wear safety glasses to protect eyes from arsenic acid or other hazardous liquids.

Hand protection: Wear appropriate chemical resistant gloves.

Body protection: Wear appropriate chemical resistant clothing.

Hygienic precautions: No particular precaution

Exposure standards (Dusts and fumes of oxidized steel)

- Industrial Safety and Health Act TWA: 5mg/m²
- ACGIH TWA: 5mg/m² (total corpuscles)
- OSHH TWA: 10mg/m² (total corpuscles)
- NIOSH TWA: 5mg/m² (total corpuscles)

Section 9. Physical and chemical properties

Appearance: White or gray solid

Odor: Odorless

Ph: Not applicable

Water solubility: Insoluble

Boiling point/boiling point scope: 2,750°C

Melting point/melting point scope: 1,535°C

Explosiveness: Not applicable

Oxidization: Not applicable

Vapor pressure: Not applicable

Specific gravity: 7.85 (H₂O=1)

Partition coefficient: No data available

Vapor density: Not applicable

Viscosity: No data available

Formula weight: 55.85

Section 10. Stability and reactivity

Chemical stability: Stable when kept at room temperature, under normal pressure.
Conditions and materials to avoid: Control dust occurrence. Avoid sparks and igniters.
Hazardous decomposition products: Oxidized steel substances
Probable generation of hazardous materials during reaction: Polymerization cannot occur.

Section 11. Toxicological information

Acute oral effects: No data available
Acute skin effects: No data available
Acute inhalation effects: No data available
Second rank acute toxicity: No data available
Chronic effect: No data available
Mutagenicity: No data available
Next generation effect (teratogenicity): No data available
Carcinogenicity: Not prescribed by Industrial Safety Health Act
Other: No data available

Section 12. Ecological information

Ecotoxicity: No data available
Soil mobility: No data available
Environmental absorption and degradation: No data available
Probable accumulation in animal bodies: No data available

Section 13. Disposal considerations

Regulations on disposal management: Not regulated
Disposal method: Follow applicable regulations.
Special Notice on disposal: No particular notice

Section 14. Transportation information

Classification and regulation prescribed in Regulations on Ship Transportation and Storage of Hazardous Materials on Ships Safety Act: No data available
Considerations for transportation: No data available
Classification and regulation in other countries' regulations related to transportation: No data available

Section 15. Regulatory information

Regulations prescribed by Industrial Safety and Health Act: 5mg/m² of exposure standard

Regulations prescribed in other laws related to chemical matter management such as

Hazardous Chemical Matter Management Act: Not regulated

Regulations by other countries' laws: No data available

Section 16. Other information

Source: Industrial Toxication Manual

Ministry of Labor Notification No. 97-65 (Exposure standards of chemical matters and physical factors)