

SAFETY DATA SHEET

Bimetal Saw Blade (Band Saw Blade, Reciprocating Saw Blade and Hole Saw).

Revision: 01

Date: 05/03/2021

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1 - IDENTIFICATION

Product identifier: Bimetal Saw Blade (Band Saw Blade, Reciprocating Saw Blade and Hole Saw).

Other means of identification: No applicable information is available

Recommended use of the chemical: Manufactured item.

Manufacturer's name: STARRETT INDÚSTRIA E COMÉRCIO LTDA.

Address: Avenida Laroy S. Starrett, 1880 - Pinheirinho CEP: 13306-900 - SP - BR

Telephone number: 0300 788-8800 / (11) 2118-8080 / (11) 2118-8083

Emergency telephone number: (11) 2118-8080 / (11) 2118-8083 / 0800 117 2020 (24hrs)

2 - HAZARD IDENTIFICATION

Classification of the chemical: Product not classified as hazardous by the Classification System used.

Classification system adopted: OSHA HCS 29 CFR 1910.1200
Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations.Caution Recommendations: Wash your hands after handling the product.
During handling of the product do not drink, eat or smoke.
It is recommended the use of appropriate PPE when handling the product.
Get product information before handling.
Store product in a suitable place.
In case of emergency, proceed as directed by the HazCom SDS.

Other hazards: The product has no other hazards.

3 - COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Impurities and stabilizing additives which contribute to the classification: Molybdenum (CAS 7439-98-7): 0.4 - 10 % ¹;
Cobalt (CAS 7440-48-4): 0 - 8.75 % ²;
Chromium (CAS 7440-47-3): 0.8 - 4.5 % ¹;
Tungsten (CAS 7440-33-7): 0 - 2 % ²;
Manganese (CAS 7439-96-5): 0.15 - 0.9 % ²;
Nickel (CAS 7440-02-0): 0 - 0.8 % ².¹Ingredient not classified as hazardous by the Classification System used, but has an established occupational exposure limit, according to section 8.²The ingredient does not contribute to the hazard but has an established occupational exposure limit, according to section 8.

4 - FIRST-AID MEASURES

Description of necessary measures

Inhalation: Remove victim to fresh air.

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Skin contact:	Wash exposed skin with sufficient amount of water to remove the material.
Eye contact:	Wash carefully with water for several minutes. In case of use of contact lenses, remove them, if possible. Keep washing. If eyes irritation continues: Contact a doctor. Bring this SDS.
Ingestion:	Do not induce vomiting. Wash the exposed persons mouth with wate. If the victim feels unwell, contact a TOXICOLOGICAL INFORMATION CENTER or a doctor. Bring this SDS.
Most important symptoms and effects, acute and delayed:	There are not expected effects and symptoms after exposure to the chemical.
Indication of any immediate medical attention and special treatment needed:	If necessary, provide symptomatic treatment.

5 - FIRE-FIGHTING MEASURES

Extinguishing media:	Appropriate: carbon dioxide (CO ₂), foam, water mist and powder. Inappropriate: water jet directly.
Special hazards arising from the substance or mixture:	The combustion of the chemical containers may form toxic and irritant gases such as carbon monoxide and carbon dioxide. Vapors may are heavier than air and tend to accumulate in low or confined areas, such as sewers and basements. Containers may explode if heated.
Special protective equipment and precautions for fire-fighters:	Use self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing. Containers and tanks involved in the fire should be cooled with water mist.

6 - ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:	Do not smoke. Avoid exposure to the product. If necessary, use personal protective equipment as described in Section 8.
Personal precautions:	Wear complete PPE with safety glasses, safety gloves, suitable protective clothing and closed shoes. In case of leakage, where exposure is high, it is recommended to use a suitable respiratory protection mask.
Emergency procedures:	Avoid that the spilled material reaches waterways or sewage system.
Method and materials for containment and cleaning up:	Collect the product with a clean shovel or other instrument that does not disperse the product. Put the material into appropriate containers and remove them to a safe place. For final destination, proceed pursuant to Section 13 of this SDS.

7 - HANDLING AND STORAGE

Precautions for safe handling:	Handle in a well ventilated area or with general system of ventilation/local exhaust. Avoid dust formation. Wash hands and face thoroughly after handling and before eating, drinking, smoking or
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going to the bathroom. It is not expected that the product presents a fire or explosion hazard. Use personal protective equipment as described in Section 8.

Conditions for safe storage, including any incompatibilities: Store in a well ventilated place away from sunlight. Keep container closed. Keep away from high temperatures. Wash hands and face thoroughly after handling and before eating, drinking, smoking or going to the bathroom. It is not expected that the product presents a fire or explosion hazard. Use personal protective equipment as described in Section 8. Similar to the original packaging.

8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Occupational exposure limit: The values below apply to workplaces.

- Nickel:
ACGIH - TLV - TWA: 1.5 mg/m³ (I).
- Manganese:
OSHA - PEL - Ceiling: 5 mg/m³;
NIOSH - REL - TWA: 1 mg/m³;
NIOSH - REL - STEL: 3 mg/m³;
ACGIH - TLV - TWA: 0.02 mg/m³ (R); 0.1 mg/m³ (I).
- Tungsten:
ACGIH - TLV - TWA: 3 mg/m³ (R).
- Chromium:
OSHA-CAL - PEL - TWA: 0.005 mg/m³; (COS3);
OSHA-CAL - PEL - Ceiling: 0.1 mg/m³ (as Cr);
OSHA - PEL - TWA: (CFR8);
NIOSH - REL - TWA: 0.0002 mg/m³ [8-h] (Ca); (AA); (AC);
ACGIH - TLV - TWA: 0.5 mg/m³ (I);
- Cobalt:
OSHA-CAL - PEL - TWA: 0.02 mg/m³;
OSHA - PEL - TWA: 0.1 mg/m³;
NIOSH - REL - TWA: 0.05 mg/m³;
ACGIH - TLV - TWA: 0.02 mg/m³ (I).
- Molybdenum:
OSHA - PEL - TWA: 15 mg/m³ (TD);
NIOSH - REL - TWA: (AD)

I: Inhalable particulate matter;
R: Respirable particulate matter;
Ca: Potential occupational carcinogen.
AA: See NIOSH REL Appendix A;
AC: See NIOSH REL Appendix C;
CFR8: See CFR 1910.1026.
COS3: See Cal/OSHA Sections 1532.2, 5206 and 8359.
TD: Total dust;
AD: See NIOSH REL Appendix D.

Biological limit:

- Chromium:
ACGIH - BEI: Determinant: Total chromium in urine. Sampling Time: End of shift at end of workweek. Index: 7 µg/L.
- Cobalt:
ACGIH - BEI: Determinant: Cobalt in urine. Sampling Time: End of shift at end of workweek. Index: 15.00 µg/L. Ns; Determinant: Cobalt in urine. Sampling Time: End of shift at end of workweek. Ns, Nq.

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Ns: The determinant is nonspecific, since it is also observed after exposure to other chemicals;

Nq: Biological monitoring should be considered for this compound based on the review; however, a specific BEI could not be determined due to insufficient data;.

Other limits and values:

- Cobalt:

IDLH (NIOSH): 20 mg Co / m³

- Chromium:

IDLH (NIOSH): 250 mg/m³ (como Cr).

- Manganese:

IDLH (NIOSH): 500 mg Mn / m³

Cal/ OSHA PEL-TWA: 0.2 mg / m³

Cal/ OSHA PEL-STEL: 3 mg / m³.

Appropriate engineering controls: Promote mechanical ventilation and exhaust system to outside. These acts help reducing the exposition to the product. Maintain atmospheric concentrations of the constituents of the product below occupational exposure limits indicated.

Individual protection measures, such as personal protective equipment (PPE)

Hand Protection: Appropriate protective gloves.

Eye protection: Safety glasses.

Skin and body protection: Closed shoes and suitable protective clothing.

Respiratory protection: A risk assessment should be performed for proper definition of respiratory protection, in view of the product use conditions.

9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.): Solid.

Odor: Not available.

Odor threshold: Not available.

Melting point/freezing point: Not available.

Initial boiling and boiling range: Not available.

Upper/ lower flammability or explosive limits: Not available.

Flash point: Not available.

Evaporation rate: Not available.

Auto-ignition temperature: Not available.

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Decomposition temperature:	Not available.
pH:	Not available.
Viscosity:	Not available.
Solubility(ies):	Insoluble in water.
Partition coefficient n-octanol/water:	Not available.
Vapor pressure:	Not available.
Vapor density:	Not available.
Relative density:	Not available.
Other information:	Not applicable.

10 - STABILITY AND REACTIVITY

Reactivity:	Reactivity is not to be expected under normal conditions of temperature and pressure
Chemical stability:	Product is stable under normal conditions of temperature and pressure.
Possibility of hazardous reactions:	There are not known hazardous reactions with the product.
Conditions to avoid:	Elevated temperatures.
Incompatible material:	There are not known incompatible materials with the product.
Hazardous decomposition products:	There are no known hazardous decomposition products.

11 - TOXICOLOGICAL INFORMATION

Symptoms related to the physical, chemical and toxicological characteristics:	There are not expected effects and symptoms after exposure to the chemical.
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Delayed and immediate effects and also chronic effects from short and long-term exposure

Acute toxicity:	Product not classified as acute toxic by oral. ATEmix (Oral): > 5000 mg/kg.
Skin corrosion/irritation:	It is not expected that the product causes skin irritation.
Eye damage/irritation:	It is not expected that the product causes eye irritation.
Sensitization - respiratory or skin:	Not classified for Skin Sensitization. Due to the appearance of the product, skin sensitization is not expected under normal conditions of use.

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Not classified for Respiratory Sensitization.
Due to the appearance of the product, respiratory sensitization is not expected under normal conditions of use.

The ingredient Nickel, classified as skin sensitizer - category 1, is in concentration < 1% and does not contribute to this classification of the product.

Germ cell mutagenicity: Not classified for Germ Cell Mutagenicity.
Due to the appearance of the product, mutagenicity is not expected under normal conditions of use.

Carcinogenicity: Not classified for Carcinogenicity.
Due to the appearance of the product, carcinogenicity is not expected under normal conditions of use.

The ingredient Nickel, classified as carcinogenic - category 2, is in concentration < 1% and does not contribute to this classification of the product.

Toxic to reproduction: Not classified for Reproductive Toxicity.
Due to the appearance of the product, toxicity to reproduction is not expected under normal conditions of use.

Specific target organ toxicity (single exposure): It is not expected that the product presents specific target organ toxicity by single exposure.

Specific target organ toxicity (repeated exposure): It is not expected that the product presents specific target organ toxicity by repeated exposure.

Aspiration Hazard: It is not expected that the product presents aspiration hazard.

12 - ECOLOGICAL INFORMATION

Ecotoxicity: It is not expected that the product presents ecotoxicity.

Persistence and degradability: Due to the lack of data, it is expected that the product presents persistence and it is not considered readily biodegradable.

Bioaccumulative potential: Presents low bioaccumulative potential in aquatic organisms.

Mobility in soil: Not determined.

Other adverse effects: There are not known other environmental effects for this product.

13 - DISPOSAL CONSIDERATIONS

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging: Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product.
Keep the product remains in its original and properly closed containers. Disposal should be performed as established for the product.

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14 - TRANSPORT INFORMATION

International regulations

Road: DOT - U.S. Department of Transportation.- Code of Federal Regulations.

Sea: IMO - International Maritime Organization:
• IMDG Code - International Maritime Dangerous Goods Code.

Air: IATA - International Air Transport Association:
• DGR - Dangerous Goods Regulation.

UN number: Not classified as hazardous to transport in different modals.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code: Consult regulations:
• International Maritime Organization: MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006;
• International Maritime Organization: IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.

Special precautions for user: Not applicable

15 - REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product: Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

16 - OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

Elaborated April 2021.

Change Control:

Version	Publication Date	Changes
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01	04/28/2021	Elaboration

Abbreviations:

ACGIH - American Conference of Governmental Industrial Hygienists;
ATEmix - Acute Toxicity Estimate of the mixture;
BEI - Biological Exposure Index;
CAS - Chemical Abstracts Service;
Ceiling - The concentration that should not be exceeded during any part of the working exposure.;
IARC - International Agency for Research on Cancer;
IDLH - Immediately Dangerous to Life or Health;
NIOSH - National Institute for Occupational Safety and Health;
OSHA - Occupational Safety & Health Administration;
PEL - Permissible Exposure Limit;
REL - Recommended Exposure Limit;
STEL - Short Term Exposure Limit;
TLV - Threshold Limit Value;
TWA - Time Weighted Average.

Bibliographic references:

GHS - GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS. 8th rev. ed. New York: United Nations, 2019.

ACGIH - AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2020.

ECHA - EUROPEAN CHEMICAL AGENCY. Disponível em: < <http://echa.europa.eu/web/guest> >. Access in: Apr. 2021.

GESTIS - SUBSTANCE DATABASE. Disponível em: < [http://gestis-en.itrust.de/nxt/gateway.dll/gestis_en/000000.xml?f=templates\\$fn=default.htm\\$3.0](http://gestis-en.itrust.de/nxt/gateway.dll/gestis_en/000000.xml?f=templates$fn=default.htm$3.0) >. Access in: Apr. 2021.

HSDB - HAZARDOUS SUBSTANCES DATA BANK. Available at: <http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB>. Access in: Apr. 2021.

IARC - INTERNATIONAL AGENCY FOR RESEARCH ON CANCER. Available at: <http://monographs.iarc.fr/ENG/Classification/index.php>. Access in: Apr. 2021.

IPCS - INTERNATIONAL PROGRAMME ON CHEMICAL SAFETY - INCHEM. Available at: <http://www.inchem.org/>. Access in: Apr. 2021.

IUCLID - INTERNATIONAL UNIFORM CHEMICAL INFORMATION DATABASE. [S.1.]: European chemical Bureau. Available at: <http://ecb.jrc.ec.europa.eu>.

NIOSH - NATIONAL INSTITUTE OF OCCUPATIONAL AND SAFETY. International Chemical Safety Cards. Available at: <http://www.cdc.gov/niosh/>. Access in: Apr. 2021.

TOXNET - TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available at: <http://chem.sis.nlm.nih.gov/>. Access in: Apr. 2021.