

Safety Data Sheet

1. IDENTIFICATION

Product Name	BI-METAL BAND SAW BLADE
	For a metallic material cutting
Serial No	SDS BL001
Corporate Name	AMADA CO.,LTD.
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Department	Technical Administration DEPT. Quality Control Gr.
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2. HAZARDOUS INGREDIENTS

Bi-metal band saw blade is physically and chemically steady in the solid condition.

Bi-metal band saw blade has neither physical and chemical hazards nor environmental hazards.

Each alloy elements are related to hazardous to human health and hazardous to the aquatic environment.

If dust stored in a dry condition or stored with oil, those would be ignitable.

However, subsequent operations such as grinding, welding and melting, cause a release of dust or fumes which may cause some of the ingredients to change to a form which could affect workers.

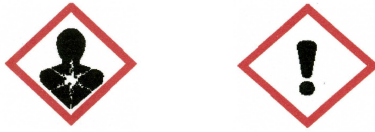
【GHS CLASSIFICATION】

PHYSICAL HAZARDS	Explosives	: Not applicable
	Flammable gases	: Not applicable
	Flammable aerosols	: Not applicable
	Oxidizing gases	: Not applicable
	Gases under pressure	: Not applicable
	Flammable liquids	: Not applicable
	Flammable solids	: Not classified
	Self-reactive substances and mixtures	: Not applicable
	Pyrophoric liquids	: Not applicable
	Pyrophoric solids	: Not classified
	Self-heating substances and mixtures	: Not classified
	Substances and mixtures which, in contact with water, emit flammable gases	: Not classified
	Substances and mixtures which, in contact with water, are highly flammable	: Not applicable
	Oxidizing liquids	: Not applicable
	Oxidizing solids	: Not applicable
	Organic peroxides	: Not applicable
HEALTH HAZARDS	Corrosive metals	: Not classified
	Acute toxicity (oral)	: Not classified
	Acute toxicity (skin)	: Not classified
	Acute toxicity (inhalation)	: Not classified
	Skin corrosion/irritation	: Category 3 (Symbol: none, Signal word: Warning)
	Serious eye damage/eye irritation	: Category 2B (Symbol: none, Signal word: Warning)
	Respiratory sensitization	: Category 1 (Symbol: health hazard, Signal word: Danger)
	Skin sensitization	: Category 1 (Symbol: exclamation mark, Signal word: Warning)
	Germ cell mutagenicity	: Category 2 (Symbol: health hazard, Signal word: Warning)
	Carcinogenicity	: Category 2 (Symbol: health hazard, Signal word: Warning)
	Reproductive toxicity	: Category 1B (Symbol: health hazard, Signal word: Danger)
	Specific target organ toxicity (single exposure)	: Category 1 [respiratory organs * kidney] (Symbol: health hazard, Signal word: Danger) Category 2 [Systemic toxicity] (Symbol: health hazard, Signal word: Warning) Category 3 [Respiratory tract irritation] (Symbol: exclamation mark, Signal word: Warning)
	Specific target organ toxicity (repeated exposure)	: Category 1 [respiratory organs * nervous system] (Symbol: health hazard, Signal word: Danger)
	Aspiration hazard	: Not classified

ENVIRONMENTAL Aquatic toxicity(acute) : Not classified
 HAZARDS Aquatic toxicity(chronic) : Category4
 (Symbol:none, Signal word:none)

【GHS LABEL ELEMENTS,INCLUDING PRECAUTIONARY STATEMENTS】

SYMBOL



SIGNAL WORD : Danger

HAZARD STATEMENT : Causes skin irritation
 Causes serious eye irritation
 May cause allergy or asthma symptoms or breathing difficulties if inhaled
 May cause allergy skin reaction
 May cause a hereditary disease
 May cause cancer
 May have harmful effects on reproductive competence and fetus
 Disorder of the respiratory system and damage to the kidney
 May be associated systemic toxicity
 Fear of stimulation to airway
 Disorder of the respiratory system and nerve damage
 Fear of harmful for aquatic organism by long term effect

PRECAUTIONARY STATEMENT:

【SAFETY MEASURE】

Protector
 Employees should wear the mask approved respiration and full protective clothing for protection against heavy concentration of dust or fumes.
 And also employees should wear gloves, hard hat, protective shoes and leg protector.
 Approved safety glasses with side shields, or goggles, should be worn.
 Approved protective filters for the mask.
 Employees do not eat and drink while operating.
 Remove extraneous matter from working clothes and wash hands after operation.

【EMERGENCY FIRST AID】

Inhalation : Remove to fresh air, if condition continues consult
 Eye Contact : Flush well with running water, get medical attention.
 Ingestion : Seek medical help

【STORAGE】

Keep it indoor.If you keep it outdoor, avoid a thing and a dewfall wet by rain, the snow, and the fog.
 Keep it in the place where child's hand doesn't reach.

【DISPOSAL】

Follow federal, state and local regulations regarding disposal.

3. ALLOYING ELEMENTS, BASE METAL ALLOYING ELEMENTS

Coated substance	TiN	TiAlN
Classification of Substance and Mixture	Mixture	
Chemical or generic name	Alloy	
Element and content	Table— 1・2	
CAS No.	Table— 1・2	
PRTR No.	Table— 1・2	
Industrial Safety and Health Act No.	Table— 1・2	

Table-1

	Chemical Composition			Cabinet order No	Content (mass%)
	Elements	Symbol	CAS No.		
Tooth Edge	Silicon	Si	7740-21-3	—	0.1~0.5
	Manganese	Mn	7439-96-5	1-412	0.1~0.5
	Chromium	Cr	7440-47-3	1-87	3~5
	Tungsten	W	7440-33-7	—	1~8
	Molybdenum	Mo	7439-98-7	1-453	4~10
	Vanadium	V	7440-62-2	—	0.5~2.0
	Cobalt	Co	7440-48-4	1-132	7~9
	Iron	Fe	7439-89-6	—	residual quantity

※The above-mentioned material doesn't correspond to a poison, a deleterious substance, and a specific deleterious substance in Deleterious Substance Control Law.

Table-2

	Chemical Composition			Cabinet order No	Content (mass%)
	Elements	Symbol	CAS No.		
Backing Material	Silicon	Si	7740-21-3	—	0.1~0.5
	Manganese	Mn	7439-96-5	1-412	0.1~0.7
	Nickel	Ni	7440-02-0	1-308	0~0.8
	Chromium	Cr	7440-47-3	1-87	1~5
	Molybdenum	Mo	7439-98-7	1-453	1~3
	Vanadium	V	7440-62-2	—	0.1~0.4
	Cobalt	Co	7440-48-4	1-132	none
	Iron	Fe	7439-89-6	—	residual quantity

※The above-mentioned material doesn't correspond to a poison, a deleterious substance, and a specific deleterious substance in Deleterious Substance Control Law.

4. EMERGENCY FIRST AID

Subsequent operations such as grinding and welding cause a release of dust or fumes which may cause some of the ingredients it change to a form which could affect workers.

Inhalation : Remove to fresh air, if condition continues consult
 Eye Contact : Flush well with running water more than 15 minutes, get medical attention.
 Ingestion : Seek medical help

Acute symptom : There is a possibility of angry when catching one's eye.
 There is a possibility of becoming unpleasant when sucking.

Symptom : There is a possibility of vomiting when swallowing.

5. FIRE FIGHTING MEASURES

Extinguishing media : Unrestricted

Fire : If dust stored in a dry condition or stored with oil, those would be ignitable.
 Wear full body protective clothing with breathing apparatus and safety shoes.

Extinguishing media: Powder for metal or dry sand.
 Do not pour water, heating may cause hydrovolcanic explosion.
 It is acceptable to pour water to be lower temperature in unburned area.

6. SPILLS AND LEAKS

Steps to take in case of release or spill : none

Notes of human body: Employees should wear approved protector for preventing of inhalation and entering the eyes of dust.

Notes of environment: Collect dust as much as possible.

Disposal method : It is the most preferable to clean up the dust by cleaner.
Dust is wiped off with the wet mop.

7. CAUTION FOR STORAGE AND HANDLING

Handling : Employees should wear approved respirators and full protective clothing and mask
Technological : for protection against heavy concentration of dust and fumes.
countermeasure: Employees should wear protective glasses.
Employees should wear gloves when handling.

Operating suggestions: Do not throw a product.
Do not handling it leads to electric shock.

Storage : Keep it in case until just before operation for prevention rust of product.
Technological :
countermeasure: Do not put product on wet floor while in use.

Storage condition: The transformation of the product is avoided.
The tier of the product is avoided.
The place of the high temperature and humidity is avoided.

8. SPECIAL PROTECTION INFORMATION

Facilities : Set up the local exhaust ventilation.
The dust mask is worn if necessary when there is a possibility to exceed
the density of the allowance.
Washing place for eyes is set up near handling place.

Working environment permissible exposure limit

Alloying Elements	Symbol	* OSHA PEL	* * ACGIH TLV	Japan Association of Industrial Health
		mg/m ³ (metal dust density)	mg/m ³ (metal dust density)	permissible concentration mg/m ³
Iron	Fe	** * N/A	N/A	N/A
Silicon	Si	15	10	N/A
Manganese	Mn	5	0.2	0.3
Nickel	Ni	1	1.5	1
Chromium	Cr	0.5	0.5	0.5
Molybdenum	Mo	15	10	N/A
Tungsten	W	N/A	5	N/A
Vanadium	V	N/A	N/A	N/A
Cobalt	Co	0.1	0.02	0.02

*OSHA : Occupational Safety and Health Administration
PEL : Permissible exposure limit
**ACGIH : American Conference of Governmental Industrial Hygienists
TLV : Allowable limit
***N/A : Not Applicable

Protection

Respiratory protection : Wear applicable dust mask or protector of respiration.
Hands protection : Suitability and durability of glove type is dependent on usage.
Eyes protection : Safety glasses
Sanitary requirement : Recommend the local exhaust ventilation. Wash hands before smoking
and after operation.

9. PHYSICAL DATA

Physical condition : Table—3
Color : Metallic color
Odor : Table—3
PH : —

Boiling Point	—
Melting Point	Table—3
Flash Point	none
Explosion limit	—
Vapor Pressure	—
Ratio	Table—3
Solubility in Water	Table—3
Octanol-water partition coefficient	—
Spontaneous ignition temperature	—
Decomposition temperature	—
Volatile	none

Table—3

Physical and Chemical data	Physical condition	Solid Metal
	Odor	Odorless
	Boiling Point	—
	Melting Point	1490°C
	Solubility in Water	Insoluble
	Vapor Density	—
	Vapor Pressure	—
	Ratio	7.9

10. REACTIVITY DATA

Stability : Chemically stable.
 Incompatibility : Reacts with strong acid to generate hydrogen gas.

11. HEALTH HAZARD STATEMENT

Steel products in the form shipped do not present a health hazard. However, subsequent operations such as grinding, welding and melting, cause a release of dust or fumes which may cause some of the ingredients to change to a form which could affect workers.

No evaluation data and hazardous information for skin corrosion, irritating nature, skin sensitizer, eye irritancy, germ cell mutagenicity, reproductive toxicity, carcinogenicity.

No hazardous information for specific target internal organs toxicity

No information for special target organ toxicity, aspiration hazard and harmful effect.

12. ENVIRONMENTAL IMPACT

No information for environmental effect.

13. DISPOSAL METHOD

Follow federal, state and local regulations regarding disposal. Use as recycled material as possible.

14. TRANSPORTATION

International regulation
 Sea restriction Nonhazardous material (except Metallic powder)
 Marine Pollutant Not applicable
 Airlines restriction Nonhazardous material (except Metallic powder)

Domestic regulation
 Land restriction Not applicable (except Metallic powder)
 Sea restriction Nonhazardous material (except Metallic powder)
 Marine Pollutant Not applicable
 Airlines restriction Nonhazardous material (except Metallic powder)

Security precaution

It is necessary to note it for handling because the tip of the blade and the getting injury are received.
 Prevent collapse of cargo at the time of transportation.

15. REGULATORY INFORMATION

- Pollutant Release and Transfer Register (PRTR)
- Industrial Safety and Health Act

16. SPECIAL PRECAUTION

All information, recommendations and suggestions contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made by AMADA CO.Ltd. with respect to the information provided.

Employers should use this information only as a supplement to other available data.

<reference> METI web site : <http://www.meti.go.jp/>
MOE web site : <http://www.env.go.jp/>
MHLW web site : <http://www.mhlw.go.jp/>
ICSC card : <http://www.nihs.go.jp/ICSC/>
NITE web site : <http://www.nite.go.jp/>
(Chemical information)
JISHA web site : <http://www.jaish.gr.jp/>
(GHS model label·model SDS information)
Japan Society for Occupational Health web site : <https://www.sanei.or.jp/>
(Working environment(Japan Society for Occupational Health acceptable concentration))

※This SDS is made suitable only for Japan's market and subject to the laws of Japan.

If you would like similar information for overseas, please contact info.machinetools@amada.co.jp.