

***YAMATO GOKIN CO., LTD.*****Material Safety Data Sheet – MSDS No. NC2550161104****1. Chemical Product and Company Identification**

Product name: Nickel Silicon Chromium Copper

Brand name: NC25 and NC50 and MoldAce(Eco Colson Hard)

Chemical Family: Alloy

Contact

Sales company: Yamato Gokin Co., Ltd.

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Date on Establishment of this report: Sep. 22nd 2006

**2. Composition**

Yamato Gokin Brand Name

ELEMENTS	CAS Number	NC-25	NC-50	MoldAce
Copper	7440-50-8	Balance	Balance	Balance
Nickel	7440-02-0	6.5-8.8%	1.5-3.0%	6.5-8.8%
Silicon	7440-21-3	1.5-2.5%	0.4-1.0%	1.5-2.5%
Chromium	7440-47-3	0.3-1.3%	0.5-1.5%	0.3-1.3%
Tin	7440-31-5	-	0.1-0.3%	-
Aluminum	7429-90-5	-	-	0.5-2.0%

Chemical Composition (percent by weight)

**3. Hazard Identification**

Emergency Overview

A dull reddish brown, malleable, odorless metallic product that poses little or no immediate hazard in solid form.

Do not use water to extinguish fires around operations involving molten metal due to the potential for steam explosions.

Inhalation

Particulate containing elements listed in section 2 “Composition” can cause

irritation to the nose, throat, lungs, and mucous membranes. Inhalation of this particulate may cause metal fume fever (high temperature, metallic taste, nausea, coughing, general weakness, muscle aches, and exhaustion), bronchitis, chills, decreased pulmonary function, and asthma-like symptoms.

#### 4. First Aid Measures

##### First Aid Procedures

Inhalation: Breathing difficulty caused by inhalation of particulate requires immediate removal to fresh air. If breathing has stopped, perform artificial respiration and obtain medical help.

Ingestion: Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person.

Skin: Thoroughly wash skin cuts or wounds to remove all particulate debris from the sound. Seek medical attention for wounds that cannot be thoroughly cleansed. Treat skin cuts and wounds with standard first aid practices such as cleansing, disinfecting and covering to prevent wound infection and contamination before continuing work. Obtain medical help for persistent irritation. Material accidentally implanted or lodged under the skin must be removed.

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

#### 5. Fire Fighting Measures

This material is non-combustible.

#### 6. Accidental Release Measures

There is no possibility of leakage because of solid under normal conditions.

#### 7. Handling And Storage

##### Handling:

Wear gloves when handling parts with loose surface particulate or sharp edges.

##### Storage:

Store in a dry area.

#### 8. Exposure Controls, Personal Protection

Special management is needed to melting, casting, cutting by welding torch, cutting and polishing as dust work by the Law.

- Seal sources or set up a local exhaust system.
- Put on a protective equipment of breath.
- Clean dust accumulation regularly.
- Wash work clothes when dust sticking.
- Wash hands and face after work.

#### Occupational Exposure Limits

Elements	OSHA PEL mg/m <sup>3</sup>	ACGIH TLV mg/m <sup>3</sup>
Copper Dust and Mist	1	1
Copper Fume	0.1	0.2
Nickel	1	1.5
Silicon	15	10
Chromium	1	0.5
Tin	-	2
Aluminum	-	10

All concentrations are in milligrams per cubic meter of air  
(These concentrations may not be visible to the human eye)

ACGIH	American Conference of Governmental Industrial Hygienists
OSHA	Occupational Safety and Health Administration
PEL	Eight-Hour Average Permissible Exposure Limit (OSHA)
TLV	Eight-Hour Average Threshold Limit value (ACGIH)

#### 9. Physical And Chemical Properties

Item	NC25	NC50	MoldAce
Boiling Point	Not Applicable	Not Applicable	Not Applicable
Melting Point	1,100°C	1,100°C	1090°C
Odor:	None	None	None
Color	Reddish	Reddish	Reddish
Density	8.5	8.7	8.6
Solubility	None	None	None

#### 10. Stability And Reactivity

General Reactivity: The materials are stable.

Incompatibility (materials to avoid): Reacts with some acids and caustic solutions to produce hydrogen gas. Hydrogen gas can be an explosion hazard.

#### 11. Toxicological Information

Acute toxicity: Cough, chest pain or fever fit by fume or dust

#### 12. Ecological Information

These materials are recyclable.

#### 13. Disposal Considerations

Solid Waste Management

When spent products are declared solid wastes (no longer recyclable), they must be labeled, managed and disposed of, in accordance with federal, state and local requirements.

#### 14. Transport Information

There are no U.S. Department of Transportation hazardous material regulations which apply to the packaging and labeling of this product as shipped by Yamato Gokin.

#### 15. Other Information

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. If you require more information, please contact us at the location listed on the first page of this report.