

# MATERIAL SAFETY DATA SHEET

Product Name: Noritake Super Alloy EX-3  
MSDS No Noritake Super Alloy EX-3 (J2005-G2)E ,Ver1.2  
Revised: 9th April, 2012

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## 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

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### 1.1 Product identifier

Trade name/designation Noritake Super Alloy EX-3

### 1.2 Relevant identified uses of the substance or mixture and uses advised

Relevant identified uses Dental Material

Uses advised against No information

### 1.3 Details of the supplier of the safety data sheet

•Manufacturer:

Kuraray Noritake Dental Inc.  
300 Higashiyama, Miyoshi-cho, Miyoshi, Aichi 470-0293, Japan

•Supplier:

For US

Kuraray America, Inc.  
33 Maiden Lane, 6th Floor, New York, NY 10038 U.S.A.  
Phone: 800-879-1676 Fax: 888-700-5200  
Website: www.kuraraydental.com

For Europe

Kuraray Europe GmbH  
Philipp-Reis-Str. 4, 65795 Hattersheim am Main, Germany  
Phone: +49 (0)69 305 35 840 Fax: +49 (0)69 305 35 640  
E-mail: dental@kuraray.de

For Other countries

Kuraray Noritake Dental Inc.

•Information department: Supplier

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## 2. HAZARDS IDENTIFICATION

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### 2.1 Classification of the mixture

GHS classification

Resp. Sens. 1	H334
Skin Sens. 1	H317
Carc. 2	H351
STOT SE. 1	H370
STOT RE. 1	H372
Aquatic Acute. 2	H401
Aquatic Chronic.2	H411

### 2.2 Label elements

Hazard pictograms



Signal word:

Danger

Hazard statements:

H317 May cause an allergic skin reaction.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

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- H351 Suspected of causing cancer.
- H370 Causes damage to organs.
- H372 Causes damage to organs through prolonged or repeated exposure.
- H401 Toxic to aquatic life.
- H411 Toxic to aquatic life with long lasting effects.

**Precautionary statements:**

- P201 Obtain special instructions before use.
- P202 Do not handle until at safty precautions have been read and understood.
- P260 Do not breathe dust/fume/gas/mist/vapours/spray.
- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
- P264 Wash thoroughly after handling.
- P270 Do not eat,drink or smoke when using this product.
- P272 Contaminated work clothing should not be allowed out of the workplace.
- P273 Avoid release to the environment.
- P280 Wear protective glove/protective clothing/eye protection/face protection.
- P281 Use Personal protective equipment as required.
- P285 In case of inadequate ventilation wear respiratory protection.
- P307+P311 If exposed: Call a POISON CENTER or doctor/physician.
- P308+P313 If exposed or concerned: Get medical advice/attention.
- P314 Get medical advice/attention if you feel unwell.
- P321 Specific treatment(see first aid statements on this label).
- P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
- P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
- P363 Wash contaminated clothing before reuse.
- P391 Collect spillage.
- P405 Store locked up.
- P501 Dispose of contents/container in accordance with local/regional/national/innternational regulation.

### 3.COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Description of the mixture: Dental Material

3.2 Hazardous ingredients:

CAS No.	EC-No.	MITI-No.	% (w/w)	name	Remark
7440-02-0	231-111-4		65-75	Nickel	
1308-38-9	215-160-9	1-284	25-35	Chromium (III) oxide (Cr2O3)	

### 4.FIRST AID MEASURES

4.1 Description of first aid measure

- General notes Get immediate medical adyice/attention.
- If on skin Wash with plenty soap and water.
- If inhaled If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
- If swallowed Call a POISON CENTER or doctor/physician if you feel unwell.
- If in eyes Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Notes for the doctor Pass on all available product information.

4.2 Most important symptoms and effects, both acute and delayed.

No information

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4.3 Indication of immediate medical attention and special treatment needed.  
No information

## 5. FIRE-FIGHTING MEASURES

### 5.1 Extinguishing media

Suitable extinguishing media

Water-spray, CO<sub>2</sub>, powder, sand or foam, etc.

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unusable extinguishing media

No information available.

### 5.2 Special hazards arising from the substance or mixture

Hazardous combustion products There is a possibility that the gas with stimulation or toxicity is produced depending on the kind of a fire.

### 5.3 Advice for fire-fighters

If it is not very dangerous, move containers from a fire in the surrounding area.

During extinction, wear a suitable heat-resistant protective suits against chemicals and self contained breathing apparatus.

Extinguish fire by pouring or spreading extinguishing media on the origin of a fire.

Extinguish fire from windward side as much as possible.

Extinguish fire by the method of covering tightly or suffocation is preferable.

Even after extinction, cool down containers by using plenty of water.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

#### For non-emergency

Protective equipment Operators wear suitable protective equipment refer to section8 and avoid inhalation and contact with eyes and skin.

Removal of ignition sources, provision of sufficient ventilation, control of dust

Remove every source of ignition immediately. (Prohibit smoking, using sparks and flames nearby this product.) Ventilate for exhaust to keep concentration in air below a limit of exposure.

Emergency procedures Isolate this product immediately and keep proper distance to every direction as released area.

Stop leakage, if it is not dangerous. Isolate this product immediately and keep proper distance to every direction as released area.

Indicate that only authorized people can enter.

Do not touch released product and walk on it.

#### For emergency responders

Wear a chemical protective clothing.

### 6.2 Environmental Precautions

Prevent inflow into ditches, sinks, basements or closed places. Take notice not to discharge this product to rivers etc. and not to affect environment.

### 6.3 Methods and material for containment and cleaning up

#### For containment

Keep container tightly closed.

#### For cleaning up

If the amount of leakage is small, absorb it by dried sand, soil, sawdust and waste paper and collect it into a tightly covered container made of metal.

#### Other information

No information

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6.4 Reference to other sections See section 8 and 13.

6.5 Additional information No information.

## **7.HANDLING AND STORAGE**

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### 7.1 Precautions for safe handling

#### Information on safe handling

Take measure against equipments written in section 8 and wear protective equipment.

Exhaust locally and ventilate totally as written in section 8.

#### To prevent handling of incompatible substances or mixtures

Avoid contact with incompatible materials. Please refer to section 10.

#### To minimize the release to the environment

Take notice not to discharge this product to rivers etc. and not to affect environment.

#### Advice on general occupational hygiene

Obtain Instructions before using this product.

Do not handle products until you have read and understood every instruction for safety.

To prevent exposure, wear protective during operation.

Watch out for fire.

Prohibit using heated substances, sparks and fire on the periphery of this product.

Ventilate for exhaust to keep concentration in air below a limit of exposure.

Avoid inhaling dust and fume.

Do not touch, inhale or swallow this product.

Do not take polluted work clothes out of workshops.

Do not drink, eat or smoke during using this product.

Use this product only outside or well ventilated area.

Wash hands well after handling this product.

Avoid emitting this product to environment.

### 7.2 Conditions for safe storage, including any incompatibilities

#### Technical measures and storage conditions

Store in dried and properly ventilated place.

Install equipments for lighting and ventilation which are necessary for handling and storing dangerous goods in a storage place.

#### Packaging materials

If containers are stipulated in transportation regulations of containers United Nations.

#### Requirements for storage rooms and vessels

Store apart from dangerous substance to mix and touch.

Seal a container and store it in a well ventilated and cool place.

It is preferable to store a container in a locked place.

#### Further Information on storage conditions

No information

### 7.3 Specific end use(s)

#### Recommendations

No information

#### Industrial sector specific solutions

No information

## **8.EXPOSURE CONTROLS/PERSONAL PROTECTION**

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### 8.1 Control parameters

#### Occupational Exposure limit values

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Chemical Name	Class	Exposure Limits	BASIS
Nickel	—	1mg/m3	Japan Society for Occupational Health
	Nickel subsulfide[12035-72-2], as Ni	TWA 0.1mg/m3(I) (I):Inhalable fraction; see Appendix C,paragraph A.	ACGIH
	Insoluble inorganic compounds (NOS)	TWA 0.2mg/m3(I) (I):Inhalable fraction; see Appendix C,paragraph A.	
	Elemental[7440-02-0]	TWA 1.5mg/m3(I) (I):Inhalable fraction; see Appendix C,paragraph A.	
	Soluble inorganic compounds (NOS)	TWA 0.1mg/m3(I) (I):Inhalable fraction; see Appendix C,paragraph A.	

## 8.2 Exposure controls

### Appropriate engineering controls

When the mists are generated, the ignition source is made to seal up, and the exhaust device is installed. Install ventilation facility if dust and fume occurs during hot heated processes.

### Personal protection equipment

- Eye and face protection : Use appropriate protectors for eyes.
- Skin protection
  - Hand protection : Use appropriate protective gloves.
  - Body protection : Use appropriate protective clothes and masks if necessary.
- Other protection : —
- Respiratory protection : Wear appropriate respiratory protection.
- Thermal hazards : —

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state, shape and colors etc.	Silvery Colour , Solid
Odor	No odor
pH	No data
Melting point/coagulation point	No data
Boiling point	No data
Flash point	No data
Explosive range	No data
Vapor pressure	No data
Vapor density(air=1)	No data
Relative density (density)	No data
Solubility	No data
Partition coefficient: octanol/ water	No data
Auto-ignition temperature	No data
Decomposition temperature	No data
Limit value of odor	No data
Vaporization speed (butyl acetate=1)	No data
Combustion Characteristics (solid and gas)	No data
Viscosity	No data

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## 10. STABILITY AND REACTIVITY

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- 10.1 Reactivity  
Not in particular.
- 10.2 Chemical Stability  
Stable, if it is use and a storage method described in this SDS.
- 10.3 Possibility of hazardous reactions  
Not in particular.
- 10.4 Conditions to avoid  
Not in particular.
- 10.5 Incompatible materials  
Strong oxidizing agent and strong acid and strong base.
- 10.6 Hazardous decomposition product  
Generation, the carbon monoxide, and carbon dioxide such as the nickel carbonyls are generated according to combustion.

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## 11. TOXICOLOGICAL INFORMATION

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- 11.1 Acute Toxicity  
No information available
- 11.2 Skin corrosion/irritation  
No information available
- 11.3 Serious eye damage/irritation  
No information available
- 11.4 Respiratory or skin sensitization  
As Nickel.  
Respiratory sensitizer: Due to the fact that the substance is classified into "Respiratory Sensitizing Substance: Group 2" according to the Recommendation on Occupational Exposure Limits for Chemical Substances (Japan Society for Occupational Health (2005)) and "Respiratory Sensitizing Substance" by the Japanese Society of Occupational Allergy and DFG.  
Skin sensitizer: Due to the fact that the substance is classified into "Skin Sensitizing Substance: Group 1" according to the Recommendation on Occupational Exposure Limits for Chemical Substances (Japan Society for Occupational Health (2005)) and Skin Sensitizing Substance by the Japanese Society of Occupational Allergy and DFG.
- 11.5 Germ cell mutagenicity  
No information available
- 11.6 Carcinogenicity  
As Nickel.  
Due to the fact that the substance is classified as Category R (as metal nickel) by NTP (2005), Category 2B (as metal nickel) by IARC (1990).
- 11.7 Reproductive toxicity  
No information available
- 11.8 STOT-single exposure  
As Nickel  
Based on the human evidence including "alveolar wall damage, alveolar edema and significant renal tubular necrosis" (ATSDR (2005)).  
The acute toxicity of nickel compounds manifests in humans as "nausea, diarrhea, dizziness, headache" (ECETOC TR33 (1989)).
- 11.9 STOT-repeated exposure  
As Nickel

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Based on the evidence from animal studies including "pleurisy, pneumonia, congestion and edema" (C aPSAR (1994)), "increased 層状体 bonded to the alveolar membrane" (ATSDR (2005)). The effects o n experimental animals were observed at dosing levels within the guidance value ranges for Category 1.Chronic exposure to nickel and its compounds may produce respiratory irritation and degeneration in humans even at doses close to occupational exposure limits. Prolonged exposure to high doses is likely to result in the fibroid lung (ECETOC TR33 (1989)).

11.10 Aspiration hazard  
No information available

## 12.ECOLOGICAL INFORMATION

12.1 Toxicity  
Chromium (III) oxide (Cr2O3) LC50•48h Crustacea(Daphnia magna) = 0.162mg/L

12.2 Persistence and degradability  
No information available

12.3 Bioaccumulative potential  
No information available

12.4 Mobility in soil  
No information available

12.5 Other adverse effects  
No information

## 13.DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

<u>Product/ Packaging disposal</u>	In disposal, follow relevant regulations and standards of municipalities. If industrial waste disposer permitted by governors or regional public organization handle disposition, commit it to them. If you commit a disposal of waste, notify sufficiently disposer of risk and harmfulness beforehand. Clean and recycle containers or dispose them properly based on relative regulations and standards of municipalities. When empty containers are disposed, its content must be removed completely.
<u>Waste treatment options</u>	Dispose of waste according to applicable local, state, federal laws and regulations.
<u>Sewage disposal options</u>	Do not discharge to a water source.
<u>Other disposal recommendations</u>	No information

13.2 Additional information No information

## 14.TRANSPORT INFORMATION

Road/Rail(ADR/RID) Not subject to ADR/RID.  
Sea transport (IMDG) Not subject to IMDG code.  
Air transport (IATA) Not Subject to IATA regulations.

## 15.REGULATORY INFORMATION

This MSDS is according to Globally Harmonized System of Classification and Labeling of Chemicals (GHS).  
Use in accordance with local/regional/national/international regulations.

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## 16. OTHER INFORMATION

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### 16.1 Indication of changes and preparation date

Preparation date	9th April, 2012
Revised	9th April, 2012

### 16.2 Abbreviations and acronyms

ACGIH	American Conference of Governmental Industrial Hygienists
ATE	Acute Toxicity Estimate
CAS No.	Chemical Abstract Service number
EC No.	EINECS and ELINCS Number
EINECS	European Inventory of Existing Commercial Substances
ELINCS	European List of notified Chemical Substances
GHS	Globally Harmonized System
LC50	Lethal concentration, 50%
LD50	Median Lethal Dose
MSDS	Material Safety Data Sheet
MITI No.	Ministry of International Trade and Industry Number
NITE	National Institute of Technology and Evaluation
OEL	Occupational Exposure Limit
SDS	Safety Data Sheet
STOT	Specific Target Organ Toxicity
(STOT) RE	Repeated Exposure
(STOT) SE	Single Exposure
TWA	Time Weighted Average

### 16.3 Key literature references and sources for data

The result of classification of substance by NITE Japan. (<http://www.safe.nite.go.jp/ghs/list.html>)

### 16.4 Handling of information given in this MSDS

Information given in this MSDS may be insufficient for not all records and references were investigated. Its content can be changed due to release of new data and correction of conventional theories. Therefore, when you use this MSDS for an important decision, it is recommended to check its content by running tests or to study its references carefully. We also do not guarantee the number about the content, physical or chemical properties. Notes are applicable to normal handling and care must be taken in case of special handling.