MATERIAL SAFETY DATA SHEET

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

1.1 Product identifier

Trade name/designation FLUX-P

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

2.HAZARDS IDENTIFICATION

2.1 Classification of the mixture

GHS classification

Acute Tox. 4	H302
Eye Irrit. 2A-2B	H319
STOT RE 1,2	H372

2.2 Label elements

Hazard pictograms

Signal word:

Danger

Hazard statements:

H302 Harmful if swallowed.

H319 Causes serious eye irritation.

H372 Causes damage to organs through prolonged or repeated exposure.

Precautionary statements:

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective glove/protective clothing/eye protection/face protection.
P301+P312 If swallowed. Call a POISON CENTER or doctor/physician if you feel unwell.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P314 Get medical advice/attention if you feel unwell.
P330 Rinse mouth.
P337+P313 If eye irritation persists: Get medical advice/attention.
P501 Dispose of contents/container in accordance with local/regional/national/international regulation.

3.COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Description of the mixture:
3.2 Hazardous ingredients:

CAS No.	EC-No.	MITI-No.	% (w/w)	name	Remark
1330-43-4	215-540-4	1-69	10-20	Tetraboron disodium heptaoxide	
8009-03-8	232-373-2		10-20	Petrolatum	
16872-11-0	240-898-3	1-46	<3	Borate(1-), tetrafluoro-, hydrogen	

*Substance classified by the manufacture.

4.FIRST AID MEASURES

4.1 Description of first aid measure

General notes	Get immediate medical advice/attention.
If on skin	Wash with plenty soap and water.
If inhaled	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
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_2, 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

6.4 Reference to other sections　See section 8 and 13.

6.5 Additional information　No information.

7.HANDLING AND STORAGE

7.1 Precautions for safe handling

Information on safe handing

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

Exhaust locally and ventilate totally as written in section8.

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

8.1 Control parameters

Occupational Exposure limit values

No Information

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.	White Paste
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

10.STABILITY AND REACTIVITY

10.1 Reactivity
Not in particular.
10.2 Chemical Stability
Stable, if it is use and a storage method described in this MSDS.
10.3 Possibility of hazardous reactions
Not in particular.
10.4 Conditions to avoid
Not in particular.
10.5 Incompatible materials
No data.
10.6 Hazardous decomposition product
No data.

11.TOXICOLOGICAL INFORMATION

11.1 Acute Toxicity
Harmful if swallowed.
Mixture ATE
ATE(oral) = 580mg/kg
11.2 Skin corrosion/irritation
No information available
11.3 Serious eye damage/irritation
Causes serious eye irritation.
As Tetraboron disodium heptaoxide
Based on the description of the human health effects (ECETOC TR63 (1995)): “Sodium tetraborate, in the form of dust, causes eye irritation,” though the severity of the effects are not presented. The substance should be placed in Category 2A from the viewpoint of safety if further subclassification is needed.
11.4 Respiratory or skin sensitization
No information available
11.5 Germ cell mutagenicity
No information available
11.6 Carcinogenicity
No information available
11.7 Reproductive toxicity
No information available
11.8 STOT-single exposure
No information available
11.9 STOT-repeated exposure
Causes damage to organs through prolonged or repeated exposure.

As Tetraboron disodium heptaoxide
Based on the human evidence including "nasal/eye/pharyngeal irritation, coughing and short of breath " (EHC 204 (1998)).
* As "inorganic borate exists as boric acid in a diluted aqueous solution of physiological pH," (PATTY (4th, 2000)), refer to "Sodium Tetraborate (10 hydrate) (ID: 0198)" and "Boric Acid (ID: 0491)."
As Borate(1-), tetrafluoro-, hydrogen
STOT RE 1 by NITE.

11.10 Aspiration hazard
Not applicable.

12.ECOLOGICAL INFORMATION

12.1 Toxicity
No information available
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

Product/ Packaging disposal	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.
Waste treatment options	Dispose of waste according to applicable local, state, federal laws and regulations.
Sewage disposal options	Do not discharge to a water source.
Other disposal recommendations	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.

16.OTHER INFORMATION

16.1 Indication of changes and preparation date

Preparation date	28th February, 2012
Revised	28th February, 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
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.