

MATERIAL SAFETY DATA SHEET

H317 May cause an allergic skin reaction.
 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 H350 May cause cancer.
 H371 May cause damage to organs.
 H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements:

P201 Obtain special instructions before use.
 P202 Do not handle until at safety precautions have been read and understood.
 P260 Do not breathe dust/fume/gas/mist/vapors/spray.
 P261 Avoid breathing dust/fume/gas/mist/vapors/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.
 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.
 P301+P312 If swallowed: Call a POISON CENTER or doctor/physician if you feel unwell.
 P302+P352 If on skin: Wash with plenty soap and water.
 P304+P341 If inhaled: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
 P308+P313 If exposed or concerned: Get medical advice/attention.
 P309+P311 If exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.
 P314 Get medical advice/attention if you feel unwell.
 P321 Specific treatment(see first aid statements on this label).
 P330 Rinse mouth.
 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.
 P405 Store locked up.
 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
18186-89-0*		1-267,1-517,1-550	<3	COBALT NICKEL GRAY PERICLASE(CPMA)	*

*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	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

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- 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, CO₂, 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 section 8 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

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<u>For containment</u>	Keep container tightly closed.
<u>For cleaning up</u>	If the amount of leakage is small, absorb it by dried sand, soil, sawdust and waste paper and collect it into an tightly covered container made of metal.
<u>Other information</u>	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 handling

Take measure against equipments written in section8 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 section10.

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

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8.EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure limit values

Chemical Name	Class	Exposure Limits	BASIS
Dust	Class3	Respirable dust 2mg/m ³ Total dust 8mg/m ³	Japan Society for Occupational Health (2009)
COBALT NICKEL GRAY PERICLASE(CPMA)	Nickel compounds	As Ni 0.1mg/m ³	Control Vaues :The Ministry of Labor (Japan)
	Cobalt and compounds	As Co 0.05mg/m ³	Japan Society for Occupational Health
	Cobalt, Elemental and inorganic compounds	As Co 0.02mg/m ³	AGCIH
	Nickel, Insoluble compounds	As Ni 0.2mg/m ³	
	Zirconium and compounds	As Zr 5mg/m ³	

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, Brown, 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

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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 SDS.
- 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) = 855mg/kg
- 11.2 Skin corrosion/irritation
No information available
- 11.3 Serious eye damage/irritation
No information available
- 11.4 Respiratory or skin sensitization
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
As COBALT NICKEL GRAY PERICLASE(CPMA)
Resp.Sens.1 Skin Sens.1 by manufacture MSDS
- 11.5 Germ cell mutagenicity
No information available
- 11.6 Carcinogenicity
May cause cancer.
As COBALT NICKEL GRAY PERICLASE(CPMA)
Carc. 1A by manufacture MSDS
- 11.7 Reproductive toxicity
No information available
- 11.8 STOT—single exposure
May cause damage to organs.
As COBALT NICKEL GRAY PERICLASE(CPMA)
STOT SE1,2 by manufacture MSDS
- 11.9 STOT—repeated exposure
May cause damage to organs through prolonged or repeated exposure.
As COBALT NICKEL GRAY PERICLASE(CPMA)
STOT RE 1 by manufacture MSDS
- 11.10 Aspiration hazard
No information available

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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
- | | |
|---------------------------------------|---|
| <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 SDS is according to Globally Harmonized System of Classification and Labelling of Chemicals (GHS).
Use in accordance with local/regional/national/international regulations.

16. OTHER INFORMATION

- 16.1 Indication of changes and preparation date
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|------------------|--------------------|
| Preparation date | 21th January, 2011 |
| Revised | 21th January, 2011 |
- 16.2 Abbreviations and acronyms

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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.