

MATERIAL SAFETY DATA SHEET

Product Name: Ti-22
MSDS No Ti-22 (J2005-G2)E ,Ver1.2
Revised: 1st April, 2012

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	<1	COBALT NICKEL GRAY PERICLASE(CPMA)	*

*Substance classified by the manufacture.

4.FIRST AID MEASURES

4.1 Description of first aid measure

- 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.

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 section8 and avoid inhalation and contact with eyes and skin.

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

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.

Indicate that only authorized people can enter.

Do not touch released product and walk on it.

For emergency responders

No information

6.2 Environmental Precautions

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 No information.

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 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.

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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

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)	—	As Ni 0.1mg/m ³	Control value: The Ministry of Labor (Japan)
	—	As Co 0.05mg/m ³	Japan Society for Occupational Health (2009)
	—	As Co 0.02mg/m ³	AGCIH (2009)
	—	As Ni 0.2mg/m ³	
—	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, Red, Blue Powder
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

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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

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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

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

No information available

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

No information available

11.9 STOT—repeated exposure

No information available

11.10 Aspiration hazard

Not applicable.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

No information available

12.2 Persistence and degradability

No information available

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- 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 Labelling 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 October, 2010
- Revised 28th October, 2010

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

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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.