

SAFETY DATA SHEET

PRO-PREP™ Protein Extraction Solution (C/T)

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1. IDENTIFICATION

A. Product name

- PRO-PREP™ Protein Extraction Solution (C/T)

B. Recommended use and restriction on use

- General use : Laboratory chemicals
 - Restriction on use : Not available

C. Manufacturer / Supplier / Distributor information

○ Manufacturer information

- Company name : iNtRON Biotechnology, Inc.
 - Address : #1011 Jungang Induspia V B/D, 137, Sagimakgol-ro, Jungwon-gu, Seongnam, Gyeonggi-do, 13202, Korea
 - Dept. : CRT center
 - Telephone number : +82-31-739-5737
 - Emergency telephone number :
 - Fax number : +82-31-739-5264
 - E-mail address : intronbio@intronbio.com

○ Supplier/Distributor information

- Company name : iNtRON Biotechnology, Inc.
 - Address : #1011 Jungang Induspia V B/D, 137, Sagimakgol-ro, Jungwon-gu, Seongnam, Gyeonggi-do, 13202, Korea
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2. HAZARD IDENTIFICATION

A. GHS Classification

- Acute toxicity (oral) : Category1
 - Skin corrosion/irritation : Category2
 - Serious eye damage/irritation : Category1

B. GHS label elements

○ Hazard symbols



○ Signal words

- Danger

○ Hazard statements

- H300 Fatal if swallowed
- H315 Causes skin irritation
- H318 Causes serious eye damage

o **Precautionary statements**

1) Prevention

- P264 Wash hands thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.

2) Response

- P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- P302+P352 IF ON SKIN: Wash with plenty of soap and water.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P310 Immediately call a POISON CENTER or doctor/physician.
- P321 Specific treatment
- P330 Rinse mouth.
- P332+P313 If skin irritation occurs: Get medical advice/attention.
- P362 Take off contaminated clothing and wash before reuse.

3) Storage

- P405 Store locked up.

4) Disposal

- P501 Dispose of contents/container in accordance with local/regional/national/international regulation

C. Other hazards which do not result in classification : (NFPA Classification)

o **NFPA grade (0 ~ 4 level)**

- Health : 3, Flammability : 0, Reactivity : 0

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Trade names and Synonyms	CAS No.	Content(%)
Glycerol	Glyceritol ; Glycylalcohol ; Glyrol ; Glycerin ; Glycerine ; 1,2,3-Propanetriol ; 1,2,3-Trihydroxypropane ; Glycol alcohol ; Propane-1,2,3-triol ; Glysanin ; Propanetriol	56-81-5	20~50
2-Amino-2-(hydroxymethyl)-1,3-propanediol	1,3-Propanediol, 2-amino-2-(hydroxymethyl)- ; Trometamol ; Tris(hydroxymethyl)methylamine ; Tris buffer ; Trihydroxymethylaminomethane ; Propane-1,3-diol, 2-amino-2-(hydroxymethyl)- ; Aminomethane ; Tromethamine ; 2-Amino-1,3-dihydroxy-2-(hydroxymethyl)propane ; 2-Amino-2-(hydroxymethyl)propane-1,3-diol ; 2-Amino-2-methylol-1,3-propanediol ; Aminotri(hydroxymethyl)methane ; Aminotrimethylolmethane ; Aminotris(hydroxymethyl)methane ; Methanamine, 1,1,1-tris(hydroxymethyl)- ; Tri(hydroxymethyl)methylamine ; Trimethylolaminomethane ; Tris(hydroxymethyl)aminomethane ; Tris(hydroxymethyl)methanamine ; Tris(methylolamino)methane ; [2-Hydroxy-1,1-bis(hydroxymethyl)ethyl]amine ; Tromethane ; Tromethanmin ;	77-86-1	0.05~0.1

Sodium chloride	Common salt ; Halite ;	7647-14-5	0.03~1
Trypsin inhibitor, pancreatic basic	-	9087-70-1	>0.0001
(3S,4S)-N-(3-Methyl-1-oxobutyl)-L-valyl-L-valyl-(3S,4S)-4-amino-3-hydroxy-6-methylheptanoyl-L-alanyl-4-amino-3-hydroxy-6-methylheptanoic acid	-	26305-03-3	>0.0001
L-Leucinamide, N-acetyl-L-leucyl-N-[(1S)-4-(aminoiminomethyl)amino]-1-formylbutyl]-, sulfate (2:1)	-	103476-89-7	>0.0001
Ethylenediaminetetraacetic acid disodium salt	Glycine, N,N'-1,2-ethanediylbis[N-(carboxymethyl)-, disodium salt ; Acetic acid, (ethylenedinitrilo)tetra-, disodium salt ; EDTA Disodium-salt ; Ethylenediaminetetraacetic acid, disodium salt ; Glycine, N,N'-1,2-ethanediylbis[N-(carboxymethyl)-, disodium salt ; Acetic acid, (ethylenedinitrilo)tetra-, disodium salt ; N,N'-1,2-Ethanediylbis[N-(carboxymethyl)glycine], disodium salt, dihydrate ; Disodium dihydrogen ethylenediaminetetraacetate	139-33-3	0.0001
alpha-toluenesulphonyl fluoride	-	329-98-6	>0.0001
Sulfinylbismethane	Methyl sulfoxide ; Sulfinylbismethane ; Methanesulfinylmethane	67-68-5	>0.0001

4. FIRST AID MEASURES

A. Eye contact

- Do not rub your eyes.
- Immediately flush eyes with plenty of water for at least 15 minutes and call a doctor/physician.
- Get medical attention immediately.
- Remove contact lenses if worn.

B. Skin contact

- Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
- Laundering enough contaminated clothing before reuse.
- Go to the hospital immediately if symptoms (flare, irritate) occur.
- Wash thoroughly after handling.

C. Inhalation contact

- When exposed to large amounts of steam and mist, move to fresh air.
- Take specific treatment if needed.

D. Ingestion contact

- Please be advised by doctor whether induction of vomit is demanded or not.
- Rinse your mouth with water immediately.
- Get medical attention immediately.
- If swallowed, large amounts of water to drink and do not induce vomiting.

E. Delayed and immediate effects and also chronic effects from short and long term exposure

- Not available

F. Notes to physician

- Notify medical personnel of contaminated situations and have them take appropriate protective measures.

5. FIREFIGHTING MEASURES

A. Suitable (Unsuitable) extinguishing media

- Dry chemical, carbon dioxide, regular foam extinguishing agent, spray
- Avoid use of water jet for extinguishing

B. Specific hazards arising from the chemical

- Not available

C. Special protective actions for firefighters

- Move containers from fire area, if you can do without the risk.
- Cool containers with water until well after fire is out.
- Keep unauthorized personnel out.
- Use appropriate extinguishing measure suitable for surrounding fire.
- Keep containers cool with water spray.
- Fine powder may cause ignition.

6. ACCIDENTAL RELEASE MEASURES

A. Personal precautions, protective equipment and emergency procedures

- Ventilate closed spaces before entering.
- Must work against the wind, let the upwind people to evacuate.
- Handling the damaged containers or spilled material after wearing protective equipment.
- Avoid dust formation.
- Moist with water to prevent dust scattering.
- Avoid skin contact and inhalation.

B. Environmental precautions

- Prevent runoff and contact with waterways, drains or sewers.
- If large amounts have been spilled, inform the relevant authorities.

C. Methods and materials for containment and cleaning up

- Large spill : Stay upwind and keep out of low areas. Dike for later disposal.
- Notification to central government, local government. When emissions at least of the standard amount
- Dispose of waste in accordance with local regulation.
- Appropriate container for disposal of spilled material collected.
- Dust spills : Cover dust spills with plastic sheet or waterproof cloth to minimize spreading and avoid contact with water.
- Small liquid state spills: Appropriate container for disposal of spilled material collected.
- For disposal of spilled material in appropriate containers collected and clear surface.

7. HANDLING AND STORAGE

A. Precautions for safe handling

- Comply with all applicable laws and regulations for handling
- Dealing only with a well-ventilated place.
- Operators should wear antistatic footwear and clothing.
- Minimize occurrence of dust and accumulation.

B. Conditions for safe storage, including any incompatibilities

- Do not use damaged containers.
- Do not apply any physical shock to container.
- Keep in the original container.
- Please pay attention to incompatibilities materials and conditions to avoid.
- Prevent static electricity and keep away from combustible materials or heat sources.
- Collected them in sealed containers.
- Do not eat, drink or smoke when using this product.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

A. Exposure limits

- **ACGIH TLV**
 - [Glycerol] : TWA, 10 mg/m³
- **OSHA PEL**
 - [Glycerol]: 15 mg/m³ (Total dust), 5 mg/m³ (Respirable fraction)

B. Engineering controls

- A system of local and/or general exhaust is recommended to keep employee exposures above the Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. The use of local exhaust ventilation is recommended to control emissions near the source.

C. Individual protection measures, such as personal protective equipment

- **Respiratory protection**
 - Under conditions of frequent use or heavy exposure, Respiratory protection may be needed.
 - Respiratory protection is ranked in order from minimum to maximum.
 - Consider warning properties before use.
 - Dust, mist, fume-purifying respiratory protection
 - Any air-purifying respirator with a corpuscle filter of high efficiency
 - Any respiratory protection with a electromotion fan(for dust, mist, fume-purifying)
 - Self-contained breathing apparatus with a corpuscle filter of high efficiency
 - For Unknown Concentration or Immediately Dangerous to Life or Health : Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply. Any self-contained breathing apparatus with a full facepiece.
- **Eye protection**
 - Wear primary eye protection such as splash resistant safety goggles with a secondary protection face shield.
 - Provide an emergency eye wash station and quick drench shower in the immediate work area.
- **Hand protection**
 - Wear appropriate glove.
- **Skin protection**
 - Wear appropriate clothing.
- **Others**
 - Not available

9. PHYSICAL AND CHEMICAL PROPERTIES

A. Appearance	
- Appearance	Not available
- Color	Not available
B. Odor	Not available
C. Odor threshold	Not available
D. pH	Not available
E. Melting point/Freezing point	Not available
F. Initial Boiling Point/Boiling Ranges	Not available
G. Flash point	Not available
H. Evaporation rate	Not available
I. Flammability(solid, gas)	Not available
J. Upper/Lower Flammability or explosive limits	Not available
K. Vapour pressure	Not available
L. Solubility	Not available
M. Vapour density	Not available
N. Specific gravity(Relative density)	Not available
O. Partition coefficient of n-octanol/water	Not available
P. Autoignition temperature	Not available
Q. Decomposition temperature	Not available
R. Viscosity	Not available
S. Molecular weight	Not available

[Ethylenediaminetetraacetic acid disodium salt]

A. Appearance	
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- Appearance	Solid, Crystal powder (change: hygroscopicity)
- Color	white
B. Odor	Not available
C. Odor threshold	Not available
D. pH	4.0-6.0 (5% solution)
E. Melting point/Freezing point	Not available
F. Initial Boiling Point/Boiling Ranges	Not available
G. Flash point	Not available
H. Evaporation rate	Not available
I. Flammability(solid, gas)	Not available
J. Upper/Lower Flammability or explosive limits	-/-
K. Vapour pressure	0.00000000000757mmHg (at 25C)
L. Solubility	1000000 g/ml (at 25C)
M. Vapour density	Not available
N. Specific gravity(Relative density)	Not available
O. Partition coefficient of n-octanol/water	-11.70
P. Autoignition temperature	Not available
Q. Decomposition temperature	250°C
R. Viscosity	Not available
S. Molecular weight	336.21

[Pepstatin A]

A. Appearance	
- Appearance	Solid, crystal, powder
- Color	Colorless to white
B. Odor	Very weak smell
C. Odor threshold	Not available
D. pH	4.0-6.0 (5% solution)
E. Melting point/Freezing point	Not available
F. Initial Boiling Point/Boiling Ranges	Not available
G. Flash point	Not available
H. Evaporation rate	Not available
I. Flammability(solid, gas)	Not available
J. Upper/Lower Flammability or explosive limits	-/-
K. Vapour pressure	Not available
L. Solubility	Not soluble
M. Vapour density	Not available
N. Specific gravity(Relative density)	Not available
O. Partition coefficient of n-octanol/water	-11.70
P. Autoignition temperature	Not available
Q. Decomposition temperature	228-233 °C
R. Viscosity	Not available
S. Molecular weight	685.9

[Dimethyl sulfoxide]

A. Appearance	
- Appearance	Liquid (hygroscopicity)
- Color	Colorless
B. Odor	Sulfur smell or garlic smell, calm smell
C. Odor threshold	Not available
D. pH	Not available
E. Melting point/Freezing point	18.5°C
F. Initial Boiling Point/Boiling Ranges	189°C
G. Flash point	87°C
H. Evaporation rate	Not available
I. Flammability(solid, gas)	Flammability

J. Upper/Lower Flammability or explosive limits	2.6/42 %
K. Vapour pressure	0.61mmHg (@25 °C)
L. Solubility	1000000mg/l (@ 0 °C)
M. Vapour density	2.7
N. Specific gravity(Relative density)	1.1
O. Partition coefficient of n-octanol/water	-1.35 (calculated value)
P. Autoignition temperature	215 °C
Q. Decomposition temperature	Not available
R. Viscosity	2.47 cP (@20)
S. Molecular weight	78.14

[Sodium Chloride]

A. Appearance	
- Appearance	Solid
- Color	Colorless, white
B. Odor	Odorless
C. Odor threshold	Not available
D. pH	6.7
E. Melting point/Freezing point	801
F. Initial Boiling Point/Boiling Ranges	1413
G. Flash point	Not available
H. Evaporation rate	Not available
I. Flammability(solid, gas)	Not available
J. Upper/Lower Flammability or explosive limits	-/-
K. Vapour pressure	9.01575 mmHg (at 1026.85)
L. Solubility	360000mg/l
M. Vapour density	Not available
N. Specific gravity(Relative density)	2.16
O. Partition coefficient of n-octanol/water	-0.46
P. Autoignition temperature	Not available
Q. Decomposition temperature	Not available
R. Viscosity	Not available
S. Molecular weight	58.44

[Tris]

A. Appearance	
- Appearance	Solid (Crystalline)
- Color	white
B. Odor	Unique smell
C. Odor threshold	Not available
D. pH	10.4 (0.1molar solution)
E. Melting point/Freezing point	171~172 °C
F. Initial Boiling Point/Boiling Ranges	219~220 °C (at 10mmHg)
G. Flash point	170 °C
H. Evaporation rate	Not available
I. Flammability(solid, gas)	Flammability
J. Upper/Lower Flammability or explosive limits	-/-
K. Vapour pressure	0.000002mmHg (@25 °C, estimation)
L. Solubility	550000 mg/l (@25 °C)
M. Vapour density	4.18
N. Specific gravity(Relative density)	1.32 (@ 20.4 °C)
O. Partition coefficient of n-octanol/water	1.56 (estimation)
P. Autoignition temperature	Not available
Q. Decomposition temperature	Not available
R. Viscosity	Not available
S. Molecular weight	121.14

[Apronin]

A. Appearance	
- Appearance	Solid
- Color	Colorless

B. Odor	Not available
C. Odor threshold	Not available
D. pH	Not available
E. Melting point/Freezing point	Not available
F. Initial Boiling Point/Boiling Ranges	Not available
G. Flash point	Not available
H. Evaporation rate	Not available
I. Flammability(solid, gas)	Not available
J. Upper/Lower Flammability or explosive limits	-/-
K. Vapour pressure	Not available
L. Solubility	Not available
M. Vapour density	Not available
N. Specific gravity(Relative density)	Not available
O. Partition coefficient of n-octanol/water	Not available
P. Autoignition temperature	Not available
Q. Decomposition temperature	Not available
R. Viscosity	Not available
S. Molecular weight	6511.44

[PMSF]

A. Appearance	
- Appearance	Crystal
- Color	White
B. Odor	Not available
C. Odor threshold	Not available
D. pH	Not available
E. Melting point/Freezing point	92°C
F. Initial Boiling Point/Boiling Ranges	Not available
G. Flash point	Not available
H. Evaporation rate	Not available
I. Flammability(solid, gas)	Not available
J. Upper/Lower Flammability or explosive limits	-/-
K. Vapour pressure	Not available
L. Solubility	Not available
M. Vapour density	Not available
N. Specific gravity(Relative density)	Not available
O. Partition coefficient of n-octanol/water	Not available
P. Autoignition temperature	Not available
Q. Decomposition temperature	Not available
R. Viscosity	Not available
S. Molecular weight	174.19

[L-Leucinamide, N-acetyl-L-leucyl-N-[(1S)-4-[(aminoiminomethyl)amino]-1-formylbutyl]-, sulfate (2:1)]

A. Appearance	
- Appearance	Solid
- Color	Not available
B. Odor	Not available
C. Odor threshold	Not available
D. pH	Not available
E. Melting point/Freezing point	Not available
F. Initial Boiling Point/Boiling Ranges	Not available
G. Flash point	Not available
H. Evaporation rate	Not available
I. Flammability(solid, gas)	Not available
J. Upper/Lower Flammability or explosive limits	-/-
K. Vapour pressure	Not available
L. Solubility	Not available
M. Vapour density	Not available
N. Specific gravity(Relative density)	Not available
O. Partition coefficient of n-octanol/water	Not available
P. Autoignition temperature	Not available
Q. Decomposition temperature	Not available

R. Viscosity	Not available
S. Molecular weight	475.59

10. STABILITY AND REACTIVITY

A. Chemical Stability

- This material is stable under recommended storage and handling conditions.

B. Possibility of hazardous reactions

- Hazardous Polymerization will not occur.

C. Conditions to avoid

- Avoid contact with incompatible materials and condition.
- Avoid : Accumulation of electrostatic charges, Heating, Flames and hot surfaces

D. Incompatible materials

- Not available

E. Hazardous decomposition products

- May emit flammable vapour if involved in fire.

11. TOXICOLOGICAL INFORMATION

A. Information on the likely routes of exposure

- **(Respiratory tracts)**
 - Not available
- **(Oral)**
 - Fatal if swallowed
- **(Eye/Skin)**
 - Causes serious eye damage
 - Causes skin irritation

B. Delayed and immediate effects and also chronic effects from short and long term exposure

- **Acute toxicity**
 - * **Oral**
 - Product (ATEmix) : Not available
 - [Glycerol] : LD50 = 12600 mg/kg Rat (ChemIDplus)
 - [2-Amino-2-(hydroxymethyl)-1,3-propanediol] : LD50 = 5900 mg/kg rabbit (Thomson Micromedex)
 - [Sodium chloride] : LD50 = 3000 mg/kg Rat (IUCLID)
 - [(3S,4S)-N-(3-Methyl-1-oxobutyl)-L-valyl-L-valyl-(3S,4S)-4-amino-3-hydroxy-6-methylheptanoyl-L-alanyl-4-amino-3-hydroxy-6-methylheptanoic acid] : LD50 > 2000 mg/kg Rat
 - [Ethylenediaminetetraacetic acid disodium salt] : LD50 2000 mg/kg Rat
 - [Sulfinylbismethane] : LD50 > 20000 mg/kg mouse (IUCLID)
 - * **Dermal**
 - Product (ATEmix) : Not available
 - [Glycerol] : LD50 > 10000 mg/kg Rat (ChemIDplus)
 - [Sodium chloride] : LD50 > 10000 mg/kg Rabbit (Thomson Micromedex)
 - [Sulfinylbismethane] : LD50 20000 mg/kg Rabbit (SIDS)
 - * **Inhalation**
 - Product (ATEmix) : Not available
 - [Glycerol] : LC50 > 2.75 mg/l 4 hr Rat (ECHA)
 - [Sodium chloride] : LC50 > 10.5 mg/l 4 hr Rat (Thomson Micromedex)
- **Skin corrosion/irritation**
 - Causes skin irritation
- **Serious eye damage/irritation**
 - Causes serious eye damage
- **Respiratory sensitization**
 - Not available
- **Skin sensitization**
 - Not available

- **Carcinogenicity**
 - * **IARC**
 - Not available
 - * **OSHA**
 - Not available
 - * **ACGIH**
 - Not available
 - * **NTP**
 - Not available
 - * **EU CLP**
 - Not available
- **Germ cell mutagenicity**
 - Not available
- **Reproductive toxicity**
 - Not available
- **STOT-single exposure**
 - Not available
- **STOT-repeated exposure**
 - Not available
- **Aspiration hazard**
 - Not available

12. ECOLOGICAL INFORMATION

A. Ecotoxicity

- **Fish**
 - [Glycerol] : LC50 >11 mg/ℓ 96 hr *Cyprinodon variegatus* (ECHA)
 - [2-Amino-2-(hydroxymethyl)-1,3-propanediol] : LC50 = 955.892 mg/ℓ 96 hr (Estimate)
 - [Sodium chloride] : LC50 1294.6 mg/ℓ 96 hr *Lepomis macrochirus* (ECOTOX)
 - [Ethylenediaminetetraacetic acid disodium salt] : LC50 320 mg/ℓ 96 hr *Poecilia reticulata* (IUCLID)
 - [Sulfinylbismethane] : LC50 32300 mg/ℓ 96 hr *Lepomis cyanellus* (OECD SIDS)
- **Crustaceans**
 - [Glycerol] : LC50 1955 mg/ℓ 48 hr *Daphnia magna* (ECHA)
 - [2-Amino-2-(hydroxymethyl)-1,3-propanediol] : EC50 = 19.793 mg/ℓ 48 hr (Estimate)
 - [Sodium chloride] : EC50 402.6 mg/ℓ 48 hr *Daphnia magna* (ECOTOX)
 - [Sulfinylbismethane] : EC50 24600 mg/ℓ 48 hr *Daphnia magna* (OECD SIDS)
- **Algae**
 - [2-Amino-2-(hydroxymethyl)-1,3-propanediol] : EC50 = 163.053 mg/ℓ 96 hr (Estimate)
 - [Sulfinylbismethane] : EC50 12350 ~ 25500 mg/ℓ 96 hr *Skeletonema costatum* (OECD SIDS)

B. Persistence and degradability

- **Persistence**
 - [Glycerol] : Log Kow -1.76 (HSDB)
 - [2-Amino-2-(hydroxymethyl)-1,3-propanediol] : log Kow = -1.56 (HSDB)
 - [Sodium chloride] : log Kow -0.46 (Estimate)
 - [(3S,4S)-N-(3-Methyl-1-oxobutyl)-L-valyl-L-valyl-(3S,4S)-4-amino-3-hydroxy-6-methylheptanoyl-L-alanyl-4-amino-3-hydroxy-6-methylheptanoic acid] : (Not applicable)
 - [Ethylenediaminetetraacetic acid disodium salt] : log Kow -11.70 (Estimate)
 - [Sulfinylbismethane] : log Kow -1.35 (ICSC)
- **Degradability**
 - Not available

C. Bioaccumulative potential

- **Bioaccumulative potential**
 - [2-Amino-2-(hydroxymethyl)-1,3-propanediol] : BCF = 3 (HSDB)
 - [Sodium chloride] : BCF 3.162 (Estimate)
 - [Sulfinylbismethane] : BCF < 0.4 (IUCLID)
 - [Ethylenediaminetetraacetic acid disodium salt] : BCF 3.162 (Estimate)
- **Biodegradation**

- [Glycerol] : Biodegradability = 65 (%) 14 day (OECD TG 301C, OECD SIDS, OECD TG 301D, IUCLIDE), 94 % 24hr (TOC removal)(FCHA)
- [Sulfinylbismethane] : 3.1 (%) 28 day (CHRIP)

D. Mobility in soil

- Not available

E. Other adverse effects

- Not available

13. DISPOSAL CONSIDERATIONS

A. Disposal methods

- Since more than two kinds of designaed waste is mixed, it is difficult to treat seperatly, then can be reduction or stabilization by incineration or similar process.
- If water separation is possible, pre-process with Water separation process.
- Dispose by incineration.

B. Special precautions for disposal

- The user of this product must disposal by oneself or entrust to waste disposer or person who other's waste recycle and dispose, person who establish and operate waste disposal facilities.
- Dispose of waste in accordance with all applicable laws and regulations.

14. TRANSPORT INFORMATION

A. UN No. (IMDG CODE/IATA DGR)

- 3288

B. Proper shipping name

- TOXIC SOLID, INORGANIC, N.O.S.

C. Hazard Class

- 6.1

D. IMDG CODE/IATA DGR Packing group

- I

E. Marine pollutant

- Not applicable

F. Special precautions for user related to transport or transportation measures

- Local transport follows in accordance with Dangerous goods Safety Management Law.
- Package and transport follow in accordance with Department of Transportation (DOT) and other regulatory agency requirements.
- EmS FIRE SCHEDULE : F-A (General fire schedule)
- EmS SPILLAGE SCHEDULE : S-A (Toxic substances)

15. REGULATORY INFORMATION

A. National and/or international regulatory information

- POPs Management Law
 - Not applicable
- Information of EU Classification
 - * Classification
 - Not applicable
- U.S. Federal regulations
 - * OSHA PROCESS SAFETY (29CFR1910.119)
 - Not applicable
 - * CERCLA Section 103 (40CFR302.4)
 - Not applicable
 - * EPCRA Section 302 (40CFR355.30)

- Not applicable
- * **EPCRA Section 304 (40CFR355.40)**
 - Not applicable
- * **EPCRA Section 313 (40CFR372.65)**
 - Not applicable
- o **Rotterdam Convention listed ingredients**
 - Not applicable
- o **Stockholm Convention listed ingredients**
 - Not applicable
- o **Montreal Protocol listed ingredients**
 - Not applicable

16. OTHER INFORMATION

A. Reference

- The information contained herein is believed to be accurate. It is provided independently of any sale of the product for purpose of hazard communication. It is not intended to constitute performance information concerning the product. No express warranty, or implied warranty of merchantability or fitness for a particular purpose is made with respect to the product or the information contained herein.
- This Safety Data Sheet was compiled with data and information from the following sources: KOSHA, NITE, ESIS, NLM, SIDS, IPCS

B. Issue date

- 2018-05-31

C. Revision number and Last date revised

- Not applicable

D. Other

- This SDS is prepared according to the Globally Harmonized System (GHS).