

# SAFETY DATA SHEET

**Date Printed :**

**Date Updated :** 31 May 2016

**Version :** Rev. 5

**Regulation :** In accordance with Regulation (EU) 2015/830 (REACH), Annex II, and OSHA 29 CFR 1910.1200

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1 Product identifier

**Name of product :** HI-TAL (P1, P2, P3)

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

**Relevant identified uses :**

#### Uses by workers in industrial settings

Identified Use (IU) name	Process Category (PROC)	Environmental Release Category (ERC)	Substance supplied to that use in form of	Product Category (PC)	Sector of Use (SU)	Subsequent service life relevant for that use	Article Category (AC)	Exposure scenario reference in the CSR
IU number 1 : Production of Hydrotalcite for industrial uses	PROC 1 : Use in closed process, no likelihood of exposure PROC 2 : Use in closed, continuous process with occasional controlled exposure PROC 8a : Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC 8b : Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	ERC 1 : Manufacture of substances ERC 2 : Formulation of preparations	As such	PC 2 : Adsorbent Products such as regulators, flocculants, precipitants, neutralisation agents	SU 8 : Manufacture of bulk, large scale chemicals (including petroleum products) SU 9 : Manufacture of fine chemicals	NO	N/A	N/A
IU number 2 : Downstream uses of Hydrotalcite in industrial production	PROC 1 : Use in closed process, no likelihood of exposure PROC 2 : Use in closed, continuous process with occasional controlled exposure PROC 3 : Use in closed batch process (synthesis or formulation) PROC 4 : Use in batch and other process (synthesis) where opportunity for exposure arises PROC 5 : Mixing or blending in batch	ERC 1 : Manufacture of substances ERC 2 : Formulation of preparations ERC 3 : Formulation in materials ERC 4 : Industrial use of processing aids in processes ERC 5 :	As such In a mixture	PC 0 : Other: Removers (former 10) PC 1 : Adhesives PC 2 : Sealants PC 9a : Coatings and paints, thinners, paint removes PC 9b :	SU 0 : Other: SU 3 : SU 5 : Manufacture of textiles, leather, fur SU 8 : Manufacture of bulk, large scale chemicals (including petroleum products) SU 9 : Manufacture of fine	NO	AC 0 : Other AC 12 AC 1 : Vehicles AC 3 : Electrical batteries and accumulators AC 5 : Fabrics, textiles and apparel AC 8 :	N/A

	<p>processes for formulation of preparations and articles (multistage and/or significant contact)</p> <p>PROC 6 : Calendering operations</p> <p>PROC 7 : Industrial spraying</p> <p>PROC 8a : Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities</p> <p>PROC 8b : Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities</p> <p>PROC 9 : Transfer of substance or preparation into small containers (dedicated filling line, including weighing)</p> <p>PROC 10 : Roller application or brushing</p> <p>PROC 12 : Use of blowing agents in manufacture of foam</p> <p>PROC 13 : Treatment of articles by dipping and pouring</p> <p>PROC 14 : Production of preparations or articles by tableting, compression, extrusion, pelletisation</p> <p>PROC 15 : Use as laboratory reagent</p> <p>PROC 19 : Hand-mixing with intimate contact and only PPE available</p> <p>PROC 21 : Low energy manipulation of substances bound in materials and/or articles</p> <p>PROC 24 : High (mechanical) energy work-up of substances bound in materials and/or articles</p> <p>PROC 25 : Other hot work operations with metals</p>	<p>Industrial use resulting in inclusion into or onto a matrix</p> <p>ERC 6a : Industrial use resulting in manufacture of another substance (use of intermediates)</p> <p>ERC 6b : Industrial use of reactive processing aids</p> <p>ERC 6c : Industrial use of monomers for manufacture of thermoplastics</p> <p>ERC 6d : Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers</p> <p>ERC 7 : Industrial use of substances in closed systems</p> <p>ERC 8a : Wide dispersive indoor use of processing aids in open systems</p> <p>ERC 8b : Wide dispersive indoor use of reactive substances in open systems</p> <p>ERC 10a : Wide dispersive outdoor use of long-life articles and materials with low release</p> <p>ERC 11a : Wide dispersive indoor use of long-life articles and materials with low release</p>		<p>Fillers, putties, plasters, modelling clay</p> <p>PC 19 : Intermediate</p> <p>PC 20 : Products such as ph-regulators, flocculants, precipitants, neutralisation agents</p> <p>PC 32 : Polymer preparations and compounds</p>	<p>chemicals</p> <p>SU 10 : Formulation [mixing] of preparations and/or re-packaging (excluding alloys)</p> <p>SU 11 : Manufacture of rubber products</p> <p>SU 12 : Manufacture of plastics products, including compounding and conversion</p> <p>SU 19 : Building and construction work</p> <p>SU 23 : Electricity, steam, gas water supply and sewage treatment</p>		<p>Paper articles</p> <p>AC 10 : Rubber articles</p> <p>AC 13 : Plastic articles</p>	
IU number 3 : Manufacturing	<p>PROC 3 : Use in closed batch process (synthesis or formulation)</p>	<p>ERC 1 : Manufacture of substances</p>	N/A	N/A	<p>SU 8 : Manufacture of bulk, large scale chemicals (including petroleum products)</p> <p>SU 9 :</p>	NO	N/A	N/A

					Manufacture of fine chemicals			
IU number 4 : Used as a stabilizer in the polymer industry	PROC 3 : Use in closed batch process (synthesis or formulation)	ERC 6d : Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers	As such In a mixture	PC 32 : Polymer preparations and compounds	N/A	NO	N/A	N/A
IU number 5 : Distribution/uploading	PROC 8b : Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	ERC 2 : Formulation of preparations	As such In a mixture	N/A	SU 10 : Formulation [mixing] of preparations and/or re-packaging (excluding alloys)	NO	N/A	N/A
IU number 6 : Distribution/storing	PROC 1 : Use in closed process, no likelihood of exposure	ERC 2 : Formulation of preparations	As such In a mixture	N/A	SU 10 : Formulation [mixing] of preparations and/or re-packaging (excluding alloys)	NO	N/A	N/A
IU number 7 : Distribution/repacking	PROC 9 : Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	ERC 2 : Formulation of preparations	As such In a mixture	N/A	SU 10 : Formulation [mixing] of preparations and/or re-packaging (excluding alloys)	NO	N/A	N/A
IU number 8 : Distribution/sampling	PROC 2 : Use in closed, continuous process with occasional controlled exposure	ERC 2 : Formulation of preparations	As such In a mixture	N/A	SU 10 : Formulation [mixing] of preparations and/or re-packaging (excluding alloys)	NO	N/A	N/A
IU number 9 : Distribution/forwarding	PROC 1 : Use in closed process, no likelihood of exposure	ERC 2 : Formulation of preparations	As such In a mixture	N/A	SU 10 : Formulation [mixing] of preparations and/or re-packaging (excluding alloys)	NO	N/A	N/A
IU number 10 : Distribution/Quality control	PROC 15 : Use as laboratory reagent	ERC 8b : Wide dispersive indoor use of reactive substances in open systems	As such In a mixture	N/A	SU 10 : Formulation [mixing] of preparations and/or re-packaging (excluding alloys)	NO	N/A	N/A
IU number 11 : Used as stabilier in the polymer industry	PROC 3 : Use in closed batch process (synthesis or formulation)	ERC 6d : Industrial use of process regulators for polymerisation	N/A	PC 32 : Polymer preparations and compounds	N/A	NO	N/A	N/A

		processes in production of resins, rubbers,						
IU number 12 : Distribution / storing	PROC 1 : Use in closed process, no likelihood of exposure	ERC 2 : Formulation of preparations	As such In a mixture	N/A	SU 10 : Formulation [mixing] of preparations and/or re-packaging (excluding	NO	N/A	N/A
IU number 13 : Distribution / r epacking	PROC 9 : Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	ERC 2 : Formulation of preparations	As such In a mixture	N/A	SU 10 : Formulation [mixing] of preparations and/or re-packaging (excluding	NO	N/A	N/A
IU number 14 : Distribution / sampling	PROC 2 : Use in closed, continuous process with occasional controlled exposure	ERC 2 : Formulation of preparations	N/A	N/A	SU 10 : Formulation [mixing] of preparations and/or re-packaging (excluding	NO	N/A	N/A
IU number 15 : Distribution / forwarding	PROC 1 : Use in closed process, no likelihood of exposure	ERC 2 : Formulation of preparations	As such In a mixture	N/A	SU 10 : Formulation [mixing] of preparations and/or re-packaging (excluding	NO	N/A	N/A
IU number 16 : Distribution / quality control	PROC 15 : Use as laboratory reagent	ERC 8b : Wide dispersive indoor use of reactive substances in open systems	N/A	N/A	SU 10 : Formulation [mixing] of preparations and/or re-packaging (excluding alloys)	NO	N/A	N/A

Uses advised against : No information available

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

Manufacturer/Supplier : SINWON CHEMICAL CO., LTD.

Street address/P.O. Box : 92, Gongdan 1-daero 28beon-gil, Siheung-si, Gyeonggi-do, Korea

Country ID/Postcode/Place : Not available

Telephone number (if possible, indicate telefax) : +82-31-432-6688

e-mail address of competent person responsible for the SDS : swc4@swchem.co.kr

National contact : Not available

### 1.4 Emergency Telephone

Emergency Telephone number : +82-31-432-6688

Opening hours : Not available

Other comments (e.g. language(s) of the phone service) : Not available

## SECTION 2 : HAZARDS IDENTIFICATION

## 2.1 Classification of the substance or mixture

HI-TAL is not classified according to Regulation (EC) No 1272/2008 [CLP] and OSHA 29 CFR

1910.1200 : Not classified

## 2.2 Label elements

**Hazard pictograms** : Not classified

**Signal word** : Not classified

**Hazard statement** : Not classified

**Additional precautionary statements** : Not classified

## 2.3 Other hazards

No information available

# SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

## 3.1 Mixture

**Description of the mixture** : Not mixture

CAS No.	EC No.	REACH Registration No.	%[weight]	Name	Classification according to Regulation(EC) No 1278/2008(CLP)
11097-59-9	234-319-3	Not available	100	[Carbonato(2)]hexa decahydroxy bis(aluminium)hexa magnesium (Magnesium aluminum hydroxide carbonate)	See section 2

# SECTION 4 : FIRST-AID MEASURES

## 4.1 Description of first aid measures

### General notes

- Not available

### Following inhalation

- Specific medical treatment is urgent.
- Move victim to fresh air.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.

### Following skin contact

- In case of contact with substance, immediately flush skin with running water at least 20 minutes.
- Remove and isolate contaminated clothing and shoes.
- Wash contaminated clothing and shoes before reuse.
- Get immediate medical advice/attention.

### Following eye contact

- In case of contact with substance, immediately flush eyes with running water at least 20 minutes.

### Following ingestion

- Do not let him/her eat anything, if unconscious.
- Get immediate medical advice/attention.

### Self-protection of the first aider

- Not available

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

### Acute effects

May cause mild eye irritation.

### Delayed effects

No delayed effects are anticipated if first aid treatment is applied and is effective.

## 4.3 Indication of immediate medical attention and special treatment needed

- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect

## SECTION 5 : FIRE-FIGHTING MEASURES

### 5.1 Extinguishing media

- Suitable extinguishing media: Dry sand, dry chemical, alcohol-resistant foam, water spray, regular foam, CO<sub>2</sub>
- Unsuitable extinguishing media: High pressure water streams

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

- May be ignited by heat, sparks or flames.
- Containers may explode when heated.
- Some of these materials may burn, but none ignite readily.

### 5.3 Advice for firefighters

- Dike fire-control water for later disposal; do not scatter the material.
- Move containers from fire area if you can do it without risk.
- Fire involving Tanks; Cool containers with flooding quantities of water until well after fire is out.
- Fire involving Tanks; Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- Fire involving Tanks; ALWAYS stay away from tanks engulfed in fire.

## SECTION 6 : ACCIDENTAL RELEASE MEASURES

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

#### For non-emergency personnel

**Protective equipment** : Not available

**Emergency procedures** : Not available

#### For emergency responders

- ELIMINATE all ignition sources
- Stop leak if you can do it without risk.
- Please note that materials and conditions to avoid.
- Ventilate the area.
- Do not touch or walk through spilled material.
- Prevent dust cloud.

### 6.2 Environmental precautions

- Prevent entry into waterways, sewers, basements or confined areas.

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

#### For containment

- Not available

#### For cleaning up

- Small Spill; Flush area with flooding quantities of water.
- With clean shovel place material into clean, dry container and cover loosely; move containers from spill area.
- Powder Spill; Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry.

#### Other information

- Not available

### 6.4 Reference to other sections

- See also sections 8 and 13 of the Safety Data Sheet.

## SECTION 7 : HANDLING AND STORAGE

### 7.1 Precautions for safe handling

#### Protective measures :

- Please note that materials and conditions to avoid.
- Please work with reference to engineering controls and personal protective equipment.
- Be careful to high temperature

**Measures to prevent fire** : Not available

**Measures to prevent aerosol and dust generation**

- Not available

**Measures to protect the environment :**

- Not available

**Advice on general occupational hygiene :**

- Not available

**7.2 Conditions for safe storage, including any incompatibilities****Technical measures and storage conditions**

- Store in a closed container.

- Store in cool and dry place.

**Packaging materials :** Not available

**Requirements for storage rooms and vessels :** Not available

**Further information on storage conditions :** Not available

**7.3 Specific end use(s)**

**Recommendations :** Not available

**Industrial sector specific solutions :** Not available

## SECTION 8 : EXPOSURE CONTROLS / PERSONAL PROTECTION

**8.1 Control parameters****Occupational Exposure limits**

Name	Korea regulation	ACGIH regulation	Biological exposure index	OSHA regulation	NIOSH regulation	EU regulation	United Kingdom
[Carbonato(2)]hexadecahydroxy bis(aluminium)hexamagnesium (Magnesium aluminum hydroxide carbonate)	Not available	TWA = 1 mg/m <sup>3</sup> (respirable fraction)	Not available	Not available	Not available	Not available	Not available

**8.2 Exposure controls****8.2.1 Appropriate engineering controls :**

**Substance/mixture related measures to prevent exposure during identified uses:** No specific measures

**Structural measures to prevent exposure:** No specific measures

**Organisational measures to prevent exposure:** No specific measures

**Technical measures to prevent exposure:**

Provide local exhaust ventilation system or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

**8.2.2 Individual protection measures, such as personal protective equipment :****Eye and face protection**

- Wear breathable safety goggles to protect from particulate material causing eye irritation or other disorder.

- An eye wash unit and safety shower station should be available nearby work place.

**Skin protection****Hand protection**

Wear appropriate protective gloves by considering physical and chemical properties of chemicals.

**Other skin protection**

Wear appropriate protective clothing by considering physical and chemical properties of chemicals.

**Respiratory protection**

- Breathing protection if dusts are formed. Particle filter with low efficiency for solid particles (e.g. EN 143 or 149, Type P1 or FFP1).

- Respiratory protection: Wear NIOSH/MESA approved full or half face piece (with goggles) respiratory protective equipment.

**Thermal hazards**

Not available

**8.2.3 Environmental exposure controls**

Not available

## SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

**9.1 Information on basic physical and chemical properties**

**Appearance****Description** : Solid(powder)**Color** : White**Odor** : Not available**Odor threshold** : Not available**pH** : Not available**Melting point/freezing point** :  $\geq 150$  °C**Initial boiling point and boiling range** : 333.6 °C(760 mmHg)**Flash point** : 169.8°C**Evaporation rate** : Not available**Flammability (solid, gas)** : Non flammable**Upper/lower flammability or explosive limits** : Not available**Vapor pressure** :  $0.7 \pm 0.1$  Pa (20 °C)**Solubility (ies)** : 0.009 mg/L (20.4 °C)**Vapor density** : Not available**Relative density** : Not available**Partition coefficient: n-octanol/water** : Not available**Auto ignition temperature** :  $> 400$  °C**Decomposition temperature** : Not available**Viscosity** : Not available**Explosive properties** : Not available**Oxidizing properties** : Not available**Molecular weight** : 603.98**Density** : 2.2 g/cm<sup>3</sup> (20 °C)**9.2 Other information**

- Not available

**SECTION 10 : STABILITY AND REACTIVITY****10.1 Reactivity**

- Not available

**10.2 Chemical stability**

- Not available

**10.3 Possibility of hazardous reactions**

- Fire may produce irritating and/or toxic gases.

- If inhaled, may be harmful.

**10.4 Conditions to avoid**

- Heat, sparks or flames.

**10.5 Incompatible materials**

- Flammable material

**10.6 Hazardous decomposition products**

- Not available

**SECTION 11 : TOXICOLOGICAL INFORMATION****11.1 Information on toxicological effects**

## (a) Acute toxicity;

Oral - Rat, LD50  $> 2,000$  mg/kg (GLP)Dermal - Rat, LD50  $> 2,000$  mg/kg (GLP)Inhalation - Rat, LC50  $> 5.17$  mg/L/4hr (OECD TG 403, GLP)

(b) Skin Corrosion/ Irritation; - In skin irritation study with rabbits, no skin irritation was caused by 4 hours of exposure to this substance. (OECD TG 404, GLP).

(c) Serious Eye Damage/Irritation; - This substance was considered mildly irritating to the rabbit eye. Changes were fully reversible within 3 days. (conjunctivae score (redness) = 1, chemosis score = 0.3, cornea score = 0, iris score = 0)

- (GLP)
- (d) Respiratory sensitization; - Not available
- (e) Skin Sensitization; - In guinea pig maximisation test, this material was not sensitizing. (92/69/EC, Annex V B6 and OECD 406, GLP)
- (f) Carcinogenicity; - ACGIH : A4  
- KOREA-ISHL, IARC, NTP, OSHA, EU Regulation 1272/2008 : not listed
- (g) Mutagenicity; - Negative reactions were observed in vitro mammalian cytogenicity study and bacterial reverse mutation assay. (GLP)
- (h) Reproductive toxicity; - Not available
- (i) Specific target organ toxicity (single exposure); - In acute inhalation toxicity study with rats, decreased breathing rate and slight laboured breathing were observed. (OECD TG 403, GLP).
- (j) Specific target organ toxicity (repeat exposure); - No effects were observed in repeated dose oral toxicity study with rats. NOAEL = 1,000 mg/kg bw/day (GLP)
- (k) Aspiration Hazard; - Not available

## SECTION 12 : ECOLOGICAL INFORMATION

### 12.1 Toxicity

#### Acute toxicity

- Fish - 96hr-LC50 (*Cyprinus carpio*) > 100 mg/L (OECD TG 203, GLP)
- Invertebrates - 48hr-EC50 (*Daphnia magna*) > 100 mg/L (OECD TG 202, GLP)
- Algae - 72hr-EC50 (*Selenastrum capricornutum*) > 18 mg/L (OECD TG 201, GLP)

#### Chronic toxicity

- Fish Not available
- Invertebrates Not available
- Algae - 72h-NOEC (*Selenastrum capricornutum*) = 10 mg/L (OECD TG 201, GLP)

### 12.2 Persistence and Persistence : Not available

Degradability Degradability : Not available

### 12.3 Bioaccumulative potential Bioaccumulation : Not available

Biodegradation : Not available

### 12.4 Mobility in soil Not available

### 12.5 Results of PBT and vPvB assessment Not available

### 12.6 Other adverse effects Not available

## SECTION 13 : DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

#### Product/Packaging disposal

- Consider the required attentions in accordance with waste treatment management regulation.

**Waste codes / Waste designation according to LoW(2015) :** Not available

#### Waste treatment-relevant information

- Bury in the management-typed burial facility for the specified waste, after packing with polyethylene or other similar packaging.

- Stabilize.

- Solidify with cement or synthetic polymer compounds or solidify in other similar way.

#### Sewage disposal-relevant information

Not available

#### Other disposal recommendations

Not available

## SECTION 14 : TRANSPORT INFORMATION

- 14.1 UN Number : Not classified with a dangerous goods
- 14.2 UN Proper shipping name : Not applicable
- 14.3 Transport Hazard class : Not applicable
- 14.4 Packing group : Not applicable
- 14.5 Environmental hazards : Not applicable
- 14.6 Special precautions for user
  - in case of fire : Not applicable
  - in case of leakage : Not applicable
- 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not Available

## SECTION 15 : REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulation/legislation specific for the substance or mixture EU Regulatory Information

#### EU classification :

##### EU CLP 2008 :

- Classification : Not classified
- Hazard statement codes : Not applicable
- Precautionary statement codes : Not applicable

EU SVHC list : Not regulated

EU Authorisation List : Not regulated

EU Restriction list : Not regulated

#### Foreign Regulatory Information

##### External information :

- U.S.A management information (OSHA Regulation) : Not regulated
- U.S.A management information (CERCLA Regulation) : Not regulated
- U.S.A management information (EPCRA 302 Regulation) : Not regulated
- U.S.A management information (EPCRA 304 Regulation) : Not regulated
- U.S.A management information (EPCRA 313 Regulation) : Not regulated
- Korea management information : Not regulated
- Substance of Roterdame Protocol : Not regulated
- Substance of Stockholme Protocol : Not regulated
- Substance of Montreal Protocol : Not regulated

15.2 Chemical safety assessment : In accordance with REACH Article 14, a Chemical Safety Assessment has been carried out for this substance.

## SECTION 16 : OTHER INFORMATION

Product safety data sheet for HI-TAL prepared in accordance with Regulation (EU) 2015/830 (REACH), Annex II, and OSHA 29 CFR 1910.1200

### 16.1 Indication of changes

Date Updated : 31 May 2016

Version : Rev. 5

### 16.2 Abbreviations and acronyms

- ACGIH = American Conference of Government Industrial Hygienists
- CLP = Classification Labelling Packaging Regulation ; Regulation (EC) No 1272/2008
- CAS No. = Chemical Abstracts Service number
- DMEL = Derived Minimal Effect Levels
- DNEL = Derived No Effect Level
- EC Number = EINECS and ELINCS Number (see also EINECS and ELINCS)
- EU = European Union
- IARC = International Agency for Research on Cancer

