Material Safety Data Sheet

1. PRODUCT AND COMPANY INFORMATION

Product name : TORO Origin

Company : Torolife Co., Ltd.

Address : #386-22, Wanju-ro, Yongjin-myeon, Wanju-gun, Jeollabuk-do, Republic of Korea

Telephone : +82 1644 4562

Fax : +82 2 6008 1703

E-mail : tororo@torolife.com

Website : www.torolife.com

Recommended use of the chemical and restrictions on use

Recommended use : Building materials

Restrictions on use : Foodstuffs

2. HAZARDS IDENTIFICATION

Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

Physical hazard : Not applicable

Health hazard : Not applicable

Environment hazard : Not applicable

Label elements including precautionary statements

Symbol : Not applicable

Signal word : Not applicable

Hazard statements / Precautionary statements : Not applicable

NFPA Rating

Health : 0 Flammability : 0 Reactivity : 0 Water reactivity : 0

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS No.	Conc. %
Kaolin	1332-58-7	80 % ~ 90 %
Ethylenevinylacetate copolymer	24937-78-8	10 % ~ 15 %

Camphor tree, Cinnamomum camphora	93685-43-9 (Similar)	4 % ~ 5 %
Clays	1302-87-0	0.2 % ~ 0.5 %

4. FIRST AID MEASURES

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

In case of skin contact

Wash off with soap and plenty of water.

If inhaled

If breathed in, move person into fresh air.

If not breathing, give artificial respiration.

Consult a physician.

If swallowed

Never give anything by mouth to an unconscious person.

Rinse mouth with water.

Potential health effect

May be harmful if swallowed.

Other medical attention.

Medical personnel should be aware of the protective measures of the substance.

5. FIRE-FIGHTING MEASURES

Flammable properties

Flash point : No flash occurred under 93 ℃ (Rapid equilibrium method)

Autoignition temperature : No spontaneous combustion under 300 ℃

Burning rate : Did not ignite. (UN TDG test & criteria - Test N1)

Suitable extinguisher

Water spray, alcohol-resistant foam, dry chemical, carbon dioxide

Specific hazards arising from the chemical

No data available

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Avoid breathing dust.

Avoid contact with skin and eyes.

Wear protective gloves/protective clothing/eye protection/face protection.

Environmental precautions

Collect spillage.

Don't dispose the product into drainages.

Methods and materials for containment and cleaning up

Pick up and arrange disposed materials without creating dust.

Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Wear protective gloves/protective clothing/eye protection/face protection.

Provide appropriate exhaust ventilation at places where dust is formed.

Avoid breathing dust.

Avoid contact with skin and eyes.

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

Wash hands thoroughly after handling.

Conditions for safe storage

Store in a well-ventilated place.

Keep container tightly closed.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Components with workplace control parameter

KOSHA :

Chemical Name	TWA	STEL
Kaolin	2 ㎎/㎥, respirable fraction	-
Silica dust	10 ㎎/㎥	-

US ACGIH / OSHA :

Chemical Name	TLV	PEL
Kaolin	2 ㎎/㎥, respirable fraction	5 ㎎/㎥
Aluminum silicate	1 ㎎/㎥, respirable fraction	-

Appropriate engineering controls : Ventilation, Emergency shower

Personal protective equipment

Respiratory protection : Dust mask

Hand protection : Protective gloves

Eye protection : Protective goggles

Skin and body protection : Working clothes

9. PHYSICAL AND CHEMICAL PROPERTIES

State : Solid at 20 ℃

pH : 8.0 ~ 9.0 ※ Sample : H_2O = 1 : 5 (*V/V*)

Flash point : No flash occurred under 93 ℃. (Rapid equilibrium method)

Autoignition temperature : No spontaneous combustion under 300 ℃

Water solubility : Soluble at 20 ℃

Density : 1.9 at 20 ℃

Flammability

Burning Rate : Did not ignite. ※ UN TDG test & criteria - Test N1

Explosive properties : No self-reaction hazard ※ UN TDG test & criteria - Test E3

Melting Range : > 130 ℃

Boiling Point : No data available

Vapour Pressure : No data available

Decomposition temperature : No data available

Partition coefficient (n-octanol/water) : No data available

Viscosity : No data available

Lower explosion limit / Upper explosion limit : No data available

10. STABILITY AND REACTIVITY

Chemical stability

Stable under general condition.

Conditions to avoid

Avoid breathing dust.

Materials to avoid

Strong Acids

Hazardous decomposition products

Carbon oxides

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral	rat	LD50 :	> 2,000 mg/kg	※ from IUCLID / US NLM
Inhalation	rat	LC50 :	No data available	
Skin	rabbit	LD50 :	No data available	

Skin irritation : No data available

Eye irritation : No data available

Respiratory sensitization : No data available

Skin sensitization : No data available

Germ cell mutagenicity : No data available

Carcinogenicity : Not classifiable ※ from CCRIS / IARC / EC ESIS

Reproductive toxicity : No data available

Specific target organ toxicity - single exposure (GHS) : No data available

Specific target organ toxicity - repeated exposure (GHS) : No data available

Aspiration hazard : No data available

12. ECOLOGICAL INFORMATION

Toxicity

Fish	LC50 :	No data available	※ from IUCLID / US NLM
Crustacean	EC50 :	No data available	
Algae	EC50 :	No data available	

Persistence and degradability : No data available

Bioaccumulative potential : No data available

Mobility in soil : No data available

Other adverse effects : No data available

13. DISPOSAL CONSIDERATIONS

Disposal consideration

Observe all environmental regulations.

Disposal precaution

Keep in suitable, closed containers for disposal.

14. TRANSPORT INFORMATION

UN TDG : Not dangerous goods

IATA : Not dangerous goods

IMDG : Not dangerous goods

Marine pollution : Not applicable

Special precaution

Fire EmS Guide : F-A (Recommendation)

Spillage EmS Guide : Not dangerous goods

15. REGULATORY INFORMATION

Korea Industrial Safety and Health Act (GHS) : Not applicable

Korea Hazardous Materials Safety Control Act : Not hazardous material

Korea Chemicals Control Act : Not toxic chemical

Korea Persistent Organic Pollutants Control Act : Not applicable

US OSHA Hazards (GHS) : Not applicable

16. OTHER INFORMATION

Issued Date : 2015. 05. 27

Revision No. : 0

Revision Date : -

References

- GHS Classification :

  Korea MSDS Testing Lab Certificate (Report No. 2015-03-001899), EC ESIS, US NLM
- Physical and chemical properties : Korea MSDS Testing Lab Certificate
- Transport information : Korea MSDS Testing Lab Certificate
- Toxic & ecological information : OECD SIDS, IUCLID, US NLM, IARC, EC ESIS, CCRIS JP NITE

Acronyms and Websites

- EC ESIS : European chemical Substances Information System, http://esis.jrc.ec.europa.eu/
- IUCLID : International Uniform Chemical Information Database, http://esis.jrc.ec.europa.eu/
- US NLM : U.S. National Library of Medicine, http://chem.sis.nlm.nih.gov/chemidplus/
- HSDB : US Hazardous Substances Data Bank, http://toxnet.nlm.nih.gov/
- CCRIS : US Chemical Carcinogenesis Research Information System, http://toxnet.nlm.nih.gov/
- IARC : International Agency for Research on Cancer, http://monographs.iarc.fr/
- JP NITE : Japan National Institute of Technology and Evaluation, http://www.safe.nite.go.jp/

※ Hazards Testing and Classification

Korea MSDS Testing Laboratory

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The product composition is provided by the mentioned company of this MSDS' section 1.
This MSDS is composed in line with The Korea Occupational Safety and Health Act Article 41 to protect the health of the employees, and for documentation.
This MSDS is composed with reference to documents and criteria provided by KOSHA.

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