

Date of issue 11/19/2024 (month/day/year)

Version 2.02

Section 1. Chemical product and company identification

A. Product name : HI-TEMP 1027 BLACK
Product code : 00426751

B. Relevant identified uses of the substance or mixture and uses advised against

Product use : Professional applications, Used by spraying.
Use of the substance/
mixture : Coating.
Uses advised against : Product is not intended, labelled or packaged for consumer use.

C. Supplier's or Importer's information : PPG SSC
(680-090)
19, Yeocheon-ro 217beon-gil, Nam-gu,
Ulsan, Korea
Tel: +82-52-210-8222
Email Address : Korea.MSDS@PPG.COM
Emergency telephone number: : +82-52-210-8331

Section 2. Hazards identification

A. Hazard classification : FLAMMABLE LIQUIDS - Category 2
CARCINOGENICITY - Category 2
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
AQUATIC HAZARD (LONG-TERM) - Category 2
This product is classified in accordance with the Industrial Safety and Health Act and the Chemical Control Act.

B. GHS label elements, including precautionary statements

Symbol : 

Signal word : Danger

Hazard statements : H225 - Highly flammable liquid and vapor.
H351 - Suspected of causing cancer.
H373 - May cause damage to organs through prolonged or repeated exposure.
(central nervous system (CNS), kidneys, liver)
H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements

Section 2. Hazards identification

- Prevention** : P202 - Do not handle until all safety precautions have been read and understood.
P280 - Wear protective gloves, protective clothing and eye or face protection.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P241 - Use explosion-proof electrical, ventilating or lighting equipment.
P241 - Use explosion-proof electrical, ventilating or lighting equipment.
P242 - Use non-sparking tools.
P243 - Take action to prevent static discharges.
P240 - Ground and bond container and receiving equipment.
P233 - Keep container tightly closed.
P273 - Avoid release to the environment.
P260 - Do not breathe vapor.
- Response** : P391 - Collect spillage.
P370 + P378 - In case of fire: Never use water to extinguish.
P308 + P313 - IF exposed or concerned: Get medical advice or attention.
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
- Storage** : P403 + P235 - Store in a well-ventilated place. Keep cool.
- Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

- C. Other hazards which do not result in classification** : Prolonged or repeated contact may dry skin and cause irritation.

Section 3. Composition/information on ingredients

CAS number/other identifiers

- CAS number** : Not applicable.

Chemical name	Common name	Identifiers	%
Mica-group minerals	MICA	CAS: 12001-26-2	5 - <10
Solvent naphtha (petroleum), heavy arom.	SOLVENT NAPHTHA (PETROLEUM), HEAVY AROMATIC	CAS: 64742-94-5	5 - <10
Xylene	XYLENES	EC: 265-198-5 CAS: 1330-20-7	1 - <5
dimethyl carbonate	DIMETHYL CARBONATE	EC: 215-535-7 CAS: 616-38-6	1 - <5
manganese ferrite black spinel	MANGANESE FERRITE PIGMENT BLACK 24	EC: 210-478-4 CAS: 68186-94-7	1 - <5
trizinc bis(orthophosphate)	ZINC ORTHOPHOSPHATE	EC: 269-056-3 CAS: 7779-90-0	1 - <5
zinc oxide	ZINC OXIDE	EC: 231-944-3 CAS: 1314-13-2	1 - <5
ethylbenzene	ETHYLBENZENE	EC: 215-222-5 CAS: 100-41-4	1 - <5
naphthalene	NAPHTHALENE	EC: 202-849-4 CAS: 91-20-3	1 - <5
Toluene	TOLUENE	EC: 202-049-5 CAS: 108-88-3	0.1 - <1
octamethylcyclotetrasiloxane	OCTAMETHYLCYCLOTETRASILOXANE	EC: 203-625-9 CAS: 556-67-2	<0.1

Section 3. Composition/information on ingredients

EC: 209-136-7

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

- A. Eye contact** : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.
- B. Skin contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.
- C. Inhalation** : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
- D. Ingestion** : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.
- E. Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

- A. Extinguishing media**
- Suitable extinguishing media** : Use dry chemical, CO₂, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.
- B. Specific hazards arising from the chemical** : Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon oxides
phosphorus oxides
halogenated compounds
metal oxide/oxides
Formaldehyde.

Section 5. Fire-fighting measures

- C. Special equipment for fire-fighting** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- Fire-fighting procedures** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Section 6. Accidental release measures

- A. Personal precautions, protective equipment and emergency procedures** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- B. Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.
- C. Methods and materials for containment and cleaning up**
- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

- A. Precautions for safe handling** : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe the vapor or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Section 7. Handling and storage

- B. Conditions for safe storage, including any incompatibilities** : Store between the following temperatures: 0 to 35°C (32 to 95°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

A. Occupational exposure limits

Ingredient name	Exposure limits
Mica-group minerals	ISHA Article 42 (Republic of Korea, 1/2020) TWA 8 hours: 3 mg/m ³ . Form: Respirable fraction.
Xylene	ISHA Article 42 (Republic of Korea, 1/2020) [Xylene] STEL 15 minutes: 150 ppm. TWA 8 hours: 100 ppm.
manganese ferrite black spinel	ISHA Article 42 (Republic of Korea, 1/2020) [Manganese & inorganic compounds] TWA 8 hours: 1 mg/m ³ (as Mn).
zinc oxide	ISHA Article 42 (Republic of Korea, 1/2020) STEL 15 minutes: 10 mg/m ³ . TWA 8 hours: 5 mg/m ³ . TWA 8 hours: 2 mg/m ³ . Form: Respirable dust.
ethylbenzene	ISHA Article 42 (Republic of Korea, 1/2020) STEL 15 minutes: 125 ppm. TWA 8 hours: 100 ppm.
naphthalene	ISHA Article 42 (Republic of Korea, 1/2020) Absorbed through skin. STEL 15 minutes: 15 ppm. TWA 8 hours: 10 ppm.
Toluene	ISHA Article 42 (Republic of Korea, 1/2020) STEL 15 minutes: 150 ppm. TWA 8 hours: 50 ppm.

- Recommended monitoring procedures** : Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

- B. Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Section 8. Exposure controls/personal protection

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

C. Personal protective equipment

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Eye protection : Safety glasses with side shields.

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Gloves : For prolonged or repeated handling, use the following type of gloves:

May be used: nitrile rubber

Recommended: Chloroprene, polyvinyl alcohol (PVA), Viton®

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

A. Appearance

Physical state : Liquid.

Color : Black.

B. Odor : Aromatic. [Slight]

C. Odor threshold : Not available.

D. pH : Not applicable.

E. Melting/freezing point : Not available.

F. Boiling point/boiling range : >37.78°C (>100°F)

G. Flash point : Closed cup: 17°C (62.6°F)

Section 9. Physical and chemical properties

H. Evaporation rate : Not available.

I. Flammability (solid, gas) : Not available.

J. Lower and upper explosive (flammable) limits : Not available.

K. Vapor pressure :

Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
dimethyl carbonate	56.78	7.6	OECD 104			

L. Solubility(ies) :

Media	Result
cold water	Not soluble

Solubility in water : Not available.

Vapor density : Not available.

M. Relative density : 1.92

N. Partition coefficient: n-octanol/water : Not applicable.

O. Auto-ignition temperature :

Ingredient name	°C	°F	Method
Solvent naphtha (petroleum), heavy arom.	220 to 250	428 to 482	ASTM E 659

Q. Decomposition temperature : Not available.

R. Viscosity : Dynamic (room temperature): Not available.
Kinematic (room temperature): Not available.
Kinematic (40°C (104°F)): >21 mm²/s (>21 cSt)

Flow time (ISO 2431) : Not available.

S. Molecular weight : Not applicable.

Section 10. Stability and reactivity

A. Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

B. Conditions to avoid : When exposed to high temperatures may produce hazardous decomposition products.

C. Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

D. Hazardous decomposition products : Depending on conditions, decomposition products may include the following materials: carbon oxides phosphorus oxides halogenated compounds Formaldehyde. metal oxide/oxides

Section 11. Toxicological information

A. Information on the likely routes of exposure : Not available.

Potential acute health effects

- Inhalation** : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.
Skin contact : Defatting to the skin. May cause skin dryness and irritation.
Eye contact : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Inhalation** : No specific data.
Ingestion : No specific data.
Skin contact : Adverse symptoms may include the following:
 irritation
 dryness
 cracking
Eye contact : No specific data.

B. Health hazards

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Solvent naphtha (petroleum), heavy arom.	LC50 Inhalation Dusts and mists	Rat	>5.2 mg/l	4 hours
Xylene	LD50 Oral	Rat	>5 g/kg	-
	LD50 Dermal	Rabbit	1.7 g/kg	-
dimethyl carbonate	LD50 Oral	Rat	4.3 g/kg	-
	LC50 Inhalation Vapor	Rat	140000 mg/m ³	4 hours
trizinc bis(orthophosphate)	LD50 Dermal	Rabbit	2.5 g/kg	-
	LD50 Oral	Rat	12.9 g/kg	-
zinc oxide	LC50 Inhalation Dusts and mists	Rat	>5.7 mg/l	4 hours
	LD50 Oral	Rat	>5000 mg/kg	-
ethylbenzene	LC50 Inhalation Dusts and mists	Rat	>5700 mg/m ³	4 hours
	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
naphthalene	LC50 Inhalation Vapor	Rat	17.8 mg/l	4 hours
	LD50 Dermal	Rabbit	17.8 g/kg	-
Toluene	LD50 Oral	Rat	3.5 g/kg	-
	LD50 Dermal	Rabbit	>20 g/kg	-
octamethylcyclotetrasiloxane	LD50 Oral	Rat	490 mg/kg	-
	LC50 Inhalation Vapor	Rat	49 g/m ³	4 hours
	LD50 Dermal	Rabbit	8.39 g/kg	-
	LD50 Oral	Rat	5580 mg/kg	-
	LC50 Inhalation Vapor	Rat	36 g/m ³	4 hours
	LD50 Dermal	Rat	>2375 mg/kg	-
	LD50 Oral	Rat	>4800 mg/kg	-

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Section 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
Xylene	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Sensitization

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Name	Classification	Route of exposure	Target organs
Solvent naphtha (petroleum), heavy arom.	Category 3	-	Narcotic effects
Xylene	Category 3	-	Narcotic effects
dimethyl carbonate	Category 3	-	Respiratory tract irritation
Toluene	Category 3	-	Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Classification	Route of exposure	Target organs
Xylene	Category 1	-	central nervous system (CNS), kidneys, liver
Toluene	Category 2	-	-

Aspiration hazard

Name	Result
Solvent naphtha (petroleum), heavy arom.	ASPIRATION HAZARD - Category 1
ethylbenzene	ASPIRATION HAZARD - Category 1
Toluene	ASPIRATION HAZARD - Category 1

Section 11. Toxicological information

Potential chronic health effects

- General** : May cause damage to organs through prolonged or repeated exposure. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
- Carcinogenicity** : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
- Mutagenicity** : No known significant effects or critical hazards.
- Reproductive toxicity** : No known significant effects or critical hazards.

Additional information

Prolonged or repeated contact may dry skin and cause irritation. Sanding and grinding dusts may be harmful if inhaled. Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Contains a substance that may emit formaldehyde if stored beyond its shelf life and/or during cure at curing temperatures greater than 60C (140F). Avoid contact with skin and clothing.

Chemical name	Identifiers	GHS Classification
Mica-group minerals Solvent naphtha (petroleum), heavy arom.	CAS: 12001-26-2 CAS: 64742-94-5 EC: 265-198-5	Not classified. FLAMMABLE LIQUIDS - Category 4 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 ASPIRATION HAZARD - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 2
Xylene	CAS: 1330-20-7 EC: 215-535-7	FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1
dimethyl carbonate	CAS: 616-38-6 EC: 210-478-4	FLAMMABLE LIQUIDS - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
manganese ferrite black spinel	CAS: 68186-94-7 EC: 269-056-3	Not classified.
trizinc bis(orthophosphate)	CAS: 7779-90-0 EC: 231-944-3	AQUATIC HAZARD (ACUTE) - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 1
zinc oxide	CAS: 1314-13-2 EC: 215-222-5	AQUATIC HAZARD (ACUTE) - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 1
ethylbenzene	CAS: 100-41-4 EC: 202-849-4	FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (inhalation) - Category 4 CARCINOGENICITY - Category 2 ASPIRATION HAZARD - Category 1
naphthalene	CAS: 91-20-3 EC: 202-049-5	AQUATIC HAZARD (LONG-TERM) - Category 3 FLAMMABLE SOLIDS - Category 2 ACUTE TOXICITY (oral) - Category 4 CARCINOGENICITY - Category 2

Section 11. Toxicological information

Toluene	CAS: 108-88-3 EC: 203-625-9	FLAMMABLE LIQUIDS - Category 2 SKIN IRRITATION - Category 2 TOXIC TO REPRODUCTION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 ASPIRATION HAZARD - Category 1
octamethylcyclotetrasiloxane	CAS: 556-67-2 EC: 209-136-7	FLAMMABLE LIQUIDS - Category 3 TOXIC TO REPRODUCTION - Category 2 AQUATIC HAZARD (LONG-TERM) - Category 1

Section 12. Ecological information

A. Ecotoxicity

Product/ingredient name	Result	Species	Exposure
Solvent naphtha (petroleum), heavy arom. dimethyl carbonate trizinc bis(orthophosphate)	NOEL 0.48 mg/l Fresh water	Daphnia	21 days
	Acute LC50 >100 mg/l	Fish	96 hours
	Acute LC50 0.112 mg/l	Fish	96 hours
zinc oxide	Chronic NOEC 0.026 mg/l	Fish	30 days
	Acute EC50 0.17 mg/l	Algae	72 hours
	Acute EC50 0.481 mg/l Fresh water	Daphnia - <i>Daphnia magna</i> - Neonate	48 hours
ethylbenzene	Chronic NOEC 0.017 mg/l Fresh water	Algae	72 hours
	Acute EC50 1.8 mg/l Fresh water	Daphnia	48 hours
	Chronic NOEC 1 mg/l Fresh water	Daphnia - <i>Ceriodaphnia dubia</i>	-
octamethylcyclotetrasiloxane	Chronic NOEC 100 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	21 days

B. Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
ethylbenzene	-	79 % - Readily - 10 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Xylene	-	-	Readily
ethylbenzene	-	-	Readily
Toluene	-	-	Readily

C. Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Solvent naphtha (petroleum), heavy arom.	2.8 to 6.5	-	High
Xylene	3.12	7.4 to 18.5	Low
dimethyl carbonate	0.354	-	Low
ethylbenzene	3.6	79.43	Low
naphthalene	3.4	85.11	Low
Toluene	2.73	8.32	Low
octamethylcyclotetrasiloxane	6.488	-	High

Section 12. Ecological information

D. Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

E. Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

A. Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

B. Disposal precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	UN	IMDG	IATA
A. UN number	UN1263	UN1263	UN1263
B. UN proper shipping name	PAINT	PAINT	PAINT
C. Transport hazard class(es)	3	3	3
D. Packing group	II	II	II
Environmental hazards	Yes. The environmentally hazardous substance mark is not required.	Yes.	Yes. The environmentally hazardous substance mark is not required.
E. Marine pollutant substances	Not applicable.	(Solvent naphtha (petroleum), heavy aromatic)	Not applicable.

Additional information

UN : None identified.

IMDG : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.

IATA : The environmentally hazardous substance mark may appear if required by other transportation regulations.

Section 14. Transport information

F. Special precaution which a user to be aware of or needs to comply with in connection with transport or transportation

Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not applicable.

Section 15. Regulatory information

A. Regulation according to ISHA

ISHA article 117 (Harmful substances prohibited from manufacture) : None of the components are listed.

ISHA article 118 (Harmful substances requiring permission) : None of the components are listed.

Article 2 of Youth Protection Act on Substances Hazardous to Youth : It is not allowed to sell to persons under the age of 19.

Exposure Limits of Chemical Substances and Physical Factors

The following components have an OEL:

ISHA Enforcement Regs Annex 19 (Exposure standards established for harmful factors) : The following components are listed: manganese and its inorganic compounds, toluene

ISHA Enforcement Regs Annex 11-5 (Harmful factors subject to Work Environment Measurement) : The following components are listed: mica, xylene, manganese and its inorganic compounds, zinc oxide, ethyl benzene

ISHA Enforcement Regs Annex 22 (Harmful Factors Subject to Special Health Check-up) : The following components are listed: mica, Xylene, Manganese and its inorganic compounds, Zinc oxide, Ethyl benzene

Standard of Industrial Safety and Health Annex 12 (Hazardous substances subject to control) : The following components are listed: mica, xylene, manganese and its inorganic compounds, zinc and its compounds, zinc and its compounds, ethyl benzene

B. Regulation according to Chemicals Control Act

Article 11 (TRI) : The following components are listed: Xylene including o-,m-,p- isomer, Manganese and its compounds, Zinc and its compounds, Zinc and its compounds, Ethylbenzene, Naphthalene

Article 18 Prohibited (K-Reach Article 27) : None of the components are listed.

Section 15. Regulatory information

- Article 19 Subject to authorization (K-Reach Article 25)** : None of the components are listed.
- Article 20 Restricted (K-Reach Article 27)** : None of the components are listed.
- Article 20 Toxic Chemicals (K-Reach Article 20)** : Not applicable
- Korea inventory** : At least one component is not listed.
- Article 39 (Accident Precaution Chemicals)** : None of the components are listed.
- C. Dangerous Materials Safety Management Act** : **Class:** Class 4 - Flammable Liquid
Item: 2. Class 1 petroleum - Water-insoluble liquid
Threshold: 200 L
Danger category: II
Signal word: Contact with sources of ignition prohibited
- D. Wastes regulation** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- E. Regulation according to other foreign laws**
- Safety, health and environmental regulations specific for the product** : No known specific national and/or regional regulations applicable to this product (including its ingredients).

Section 16. Other information

- A. References** : Korean Ministry of Environment; Chemical Control Act
Korean Ministry of Labor; Industrial Safety and Health Act
NIER Notice
Registry of Toxic Effects of Chemical Substances (RTECS)
U.S. Environmental Protection Agency, AQUIRE (Aquatic toxicity Information Retrieval) ECOTOX Database System.
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