

Date of issue 5/26/2020 (month/day/year)

Version 5

Section 1. Chemical product and company identification

- A. Product name** : DIMETCOTE 9FD LIQUID
Product code : 00381740
- 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 information** : PPG SSC
(680-090)
19, Yecheon-ro 217beon-gil, Nam-gu,
Ulsan, Korea
Tel: +82-52-210-8222
- Email Address** : Korea.MSDS@PPG.COM
- Emergency telephone number:** : +82-52-210-8222

Section 2. Hazards identification

- A. Hazard classification** : FLAMMABLE LIQUIDS - Category 2
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
CARCINOGENICITY - Category 1A
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) -
Category 3
AQUATIC HAZARD (LONG-TERM) - Category 3

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

Section 2. Hazards identification

- Hazard statements** : H225 - Highly flammable liquid and vapor.
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H336 - May cause drowsiness or dizziness.
H350 - May cause cancer.
H412 - Harmful to aquatic life with long lasting effects.
- Precautionary statements**
- Prevention** : P201 - Obtain special instructions before use.
P280 - Wear protective gloves. Wear protective clothing. Wear 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.
P242 - Use non-sparking tools.
P243 - Take action to prevent static discharges.
P273 - Avoid release to the environment.
P261 - Avoid breathing vapor.
P264 - Wash thoroughly after handling.
- Response** : P312 - Call a POISON CENTER or doctor if you feel unwell.
P308 + P313 - IF exposed or concerned: Get medical advice or attention.
P362 + P364 - Take off contaminated clothing and wash it before reuse.
P302 + P352 - IF ON SKIN: Wash with plenty of 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.
P337 + P313 - If eye irritation persists: Get medical advice or attention.
- Storage** : P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 - 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	%
Isopropyl alcohol	ISOPROPYL ALCOHOL	CAS: 67-63-0	20 - <30
Kaolin	ALUMINUM SILICATE	CAS: 1332-58-7	10 - <20
Mica-group minerals	MICA	CAS: 12001-26-2	10 - <20
2-butoxyethanol	2-BUTOXY ETHANOL	CAS: 111-76-2	10 - <20
1-methoxy-2-propanol	PROPYLENE GLYCOL MONOMETHYL ETHER	CAS: 107-98-2	5 - <10
Silicic acid, ethyl ester	ETHYL SILICATE POLYMER	CAS: 11099-06-2	5 - <10
silicon dioxide	SILICA	CAS: 7631-86-9	1 - <5
tetraethyl silicate	Tetraethyl Silicate	CAS: 78-10-4	1 - <5
iron hydroxide oxide yellow	IRON HYDROXIDE OXIDE	CAS: 51274-00-1	1 - <5
heptan-2-one	HEPTAN-2-ONE	CAS: 110-43-0	1 - <5
ethanol	ETHYL ALCOHOL	CAS: 64-17-5	1 - <5
Zinc chloride	ZINC CHLORIDE	CAS: 7646-85-7	0.1 - <1

Section 3. Composition/information on ingredients

crystalline silica, respirable powder (<10 microns)	QUARTZ (<10 microns)	CAS: 14808-60-7	0.1 - <1
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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. Non displayed substances are regarded as Business Confidential information.

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

SUB codes represent substances without registered CAS Numbers.

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. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

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 harmful 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
metal oxide/oxides

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.
- 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). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. 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 non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and

Section 7. Handling and storage

bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

B. Conditions for safe storage, including any incompatibilities

: Storage temperature: 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
Isopropyl alcohol	Ministry of Employment and Labor (Republic of Korea, 7/2018). STEL: 400 ppm 15 minutes. TWA: 200 ppm 8 hours.
Kaolin	Ministry of Employment and Labor (Republic of Korea, 7/2018). TWA: 2 mg/m ³ 8 hours. Form: Respirable fraction
Mica-group minerals	Ministry of Employment and Labor (Republic of Korea, 7/2018). TWA: 3 mg/m ³ 8 hours. Form: Respirable fraction
2-butoxyethanol	Ministry of Employment and Labor (Republic of Korea, 7/2018). Absorbed through skin. TWA: 20 ppm 8 hours.
1-methoxy-2-propanol	Ministry of Employment and Labor (Republic of Korea, 7/2018). STEL: 150 ppm 15 minutes. TWA: 100 ppm 8 hours.
tetraethyl silicate	Ministry of Employment and Labor (Republic of Korea, 7/2018). TWA: 10 ppm 8 hours.
iron hydroxide oxide yellow	Ministry of Employment and Labor (Republic of Korea, 7/2018). TWA: 5 mg/m ³ , (as Fe) 8 hours. Form: Fume TWA: 5 mg/m ³ , (as Fe) 8 hours.
heptan-2-one	Ministry of Employment and Labor (Republic of Korea, 7/2018). TWA: 50 ppm 8 hours.
ethanol	Ministry of Employment and Labor (Republic of Korea, 7/2018). TWA: 1000 ppm 8 hours.
Zinc chloride	Ministry of Employment and Labor (Republic of Korea, 7/2018). STEL: 2 mg/m ³ 15 minutes. Form: Fume

Section 8. Exposure controls/personal protection

crystalline silica, respirable powder (<10 microns)

TWA: 1 mg/m³ 8 hours. Form: Fume
**Ministry of Employment and Labor
 (Republic of Korea, 7/2018).**
 TWA: 0.05 mg/m³ 8 hours. Form:
 Respirable fraction

Recommended monitoring procedures

: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. 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.

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

: Chemical splash goggles.

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:

Recommended: butyl rubber, nitrile rubber

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

A. Appearance

Physical state : Liquid.

Color : Colorless.

B. Odor : Characteristic.

C. Odor threshold : Not available.

D. pH : Not available.

E. Melting/freezing point : Not available.

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

G. Flash point : Closed cup: 11°C (51.8°F)

H. Evaporation rate : Not available.

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

J. Lower and upper explosive (flammable) limits : Greatest known range: Lower: 1.3% Upper: 23% (tetraethyl silicate)

K. Vapor pressure : Not available.

L. Solubility : Insoluble in the following materials: cold water.

Solubility in water : Not available.

M. Vapor density : Not available.

N. Relative density : 1.09

O. Partition coefficient: n-octanol/water : Not available.

P. Auto-ignition temperature : Not available.

Q. Decomposition temperature : Not available.

R. Viscosity : Kinematic (40°C (104°F)): >0.21 cm²/s (>21 cSt)

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 metal oxide/oxides

Section 11. Toxicological information

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

Potential acute health effects

- Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
- Ingestion** : Can cause central nervous system (CNS) depression.
- Skin contact** : Causes skin irritation. Defatting to the skin.
- Eye contact** : Causes serious eye irritation.

Over-exposure signs/symptoms

- Inhalation** : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
- Ingestion** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
dryness
cracking
- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness

B. Health hazards

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Isopropyl alcohol	LC50 Inhalation Vapor	Rat	72600 mg/m ³	4 hours
	LD50 Dermal	Rabbit	12800 mg/kg	-
	LD50 Oral	Rat	5045 mg/kg	-
Kaolin	LC50 Inhalation Dusts and mists	Rat	>5.07 mg/l	4 hours
	LD50 Oral	Rat	>5000 mg/kg	-
2-butoxyethanol	LD50 Dermal	Rabbit	1060 mg/kg	-
	LD50 Oral	Rat - Male	1480 mg/kg	-
1-methoxy-2-propanol	LD50 Dermal	Rabbit	13 g/kg	-
	LD50 Oral	Rat	5.2 g/kg	-
Silicic acid, ethyl ester silicon dioxide	LD50 Oral	Rat	6270 mg/kg	-
	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat - Male, Female	>5000 mg/kg	-
tetraethyl silicate	LC50 Inhalation Dusts and mists	Rat	10 to 16 mg/l	4 hours
	LD50 Dermal	Rabbit	5.878 g/kg	-
	LD50 Oral	Rat	6270 mg/kg	-
iron hydroxide oxide yellow	LC50 Inhalation Dusts and mists	Rat	>5.05 mg/l	4 hours
	LD50 Oral	Rat	>10 g/kg	-

Section 11. Toxicological information

heptan-2-one	LC50 Inhalation Vapor	Rat	16.7 mg/l	4 hours
	LD50 Dermal	Rabbit	10.206 g/kg	-
	LD50 Oral	Rat	1.6 g/kg	-
ethanol	LC50 Inhalation Vapor	Rat	124700 mg/m ³	4 hours
	LD50 Dermal	Rat	17100 mg/kg	-
	LD50 Oral	Rat	7 g/kg	-
Zinc chloride	LD50 Oral	Rat	0.35 g/kg	-

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

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
2-butoxyethanol	Skin - Moderate irritant	Rabbit	-	4 hours	28 days
	Eyes - Irritant	Rabbit	-	24 hours	21 days

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
Isopropyl alcohol	Category 3	-	Narcotic effects
1-methoxy-2-propanol	Category 3	-	Narcotic effects
tetraethyl silicate	Category 3	-	Respiratory tract irritation
heptan-2-one	Category 3	-	Narcotic effects

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Section 11. Toxicological information

Name	Result
Isopropyl alcohol	ASPIRATION HAZARD - Category 2
heptan-2-one	ASPIRATION HAZARD - Category 2

Potential chronic health effects

- General** : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
- Carcinogenicity** : May cause cancer. Risk of cancer depends on duration and level of exposure.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : 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. Avoid contact with skin and clothing.

Chemical name	Common name	CAS #	GHS Classification
Isopropyl alcohol	ISOPROPYL ALCOHOL	67-63-0	FLAMMABLE LIQUIDS - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 ASPIRATION HAZARD - Category 2
Kaolin	ALUMINUM SILICATE	1332-58-7	Not classified.
Mica-group minerals	MICA	12001-26-2	Not classified.
2-butoxyethanol	2-BUTOXY ETHANOL	111-76-2	ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SKIN CORROSION/IRRITATION - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2 CARCINOGENICITY - Category 2
1-methoxy-2-propanol	PROPYLENE GLYCOL MONOMETHYL ETHER	107-98-2	FLAMMABLE LIQUIDS - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
Silicic acid, ethyl ester	ETHYL SILICATE POLYMER	11099-06-2	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
silicon dioxide	SILICA	7631-86-9	Not classified.
tetraethyl silicate	Tetraethyl Silicate	78-10-4	FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (inhalation) - Category 4 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract

Section 11. Toxicological information

iron hydroxide oxide yellow heptan-2-one	IRON HYDROXIDE OXIDE HEPTAN-2-ONE	51274-00-1 110-43-0	irritation) - Category 3 Not classified. FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 ASPIRATION HAZARD - Category 2
ethanol	ETHYL ALCOHOL	64-17-5	FLAMMABLE LIQUIDS - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2 CARCINOGENICITY - Category 2
Zinc chloride	ZINC CHLORIDE	7646-85-7	ACUTE TOXICITY (oral) - Category 4 SKIN CORROSION/IRRITATION - Category 1 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1 AQUATIC HAZARD (ACUTE) - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 1
crystalline silica, respirable powder (<10 microns)	QUARTZ (<10 microns)	14808-60-7	CARCINOGENICITY - Category 1A

Section 12. Ecological information

A. Ecotoxicity

Product/ingredient name	Result	Species	Exposure
Isopropyl alcohol	Acute EC50 10100 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
2-butoxyethanol	Acute LC50 1474 mg/l Chronic NOEC >100 mg/l	Fish Fish	96 hours 21 days
1-methoxy-2-propanol	Acute LC50 23300 mg/l Acute LC50 >4500 mg/l Fresh water	Daphnia Fish	48 hours 96 hours
silicon dioxide	Acute LC50 >10000 mg/l	Fish	96 hours
iron hydroxide oxide yellow	Acute LC50 >100000 mg/l	Fish	96 hours
heptan-2-one	Acute LC50 131 mg/l	Fish	96 hours
ethanol	Acute EC50 7640 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
Zinc chloride	Acute EC50 5.64 mg/l Fresh water Acute EC50 0.2 mg/l Acute LC50 0.4 to 2.2 mg/l	Aquatic plants - Lemna minor Crustaceans Fish	4 days 48 hours 96 hours

B. Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
heptan-2-one	OECD 310	69 % - Readily - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
2-butoxyethanol	-	-	Readily
heptan-2-one	-	-	Readily
ethanol	-	-	Readily

C. Bioaccumulative potential

Section 12. Ecological information

Product/ingredient name	LogP _{ow}	BCF	Potential
Isopropyl alcohol	0.05	-	low
2-butoxyethanol	0.81	-	low
heptan-2-one	1.98	-	low
ethanol	-0.31	-	low

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	No.	No.	No.
E. Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.

Additional information

UN : None identified.

IMDG : None identified.

Section 14. Transport information

IATA : None identified.

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 37 (Harmful substances prohibited from manufacture) : None of the components are listed.

ISHA article 38 (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:

Isopropyl alcohol
Kaolin
Mica-group minerals
2-butoxyethanol
1-methoxy-2-propanol
tetraethyl silicate
iron hydroxide oxide yellow
heptan-2-one
ethanol
Zinc chloride
crystalline silica, respirable powder (<10 microns)

ISHA Enforcement Regs Annex 11-3 (Exposure standards established for harmful factors) : None of the components are listed.

ISHA Enforcement Regs Annex 11-5 (Harmful factors subject to Work Environment Measurement) : The following components are listed: Isopropyl alcohol Preparations containing material at weight ratio of 1% or more, Silica (Mineral dust), Methyl n-amyl ketone Preparations containing material at weight ratio of 1% or more, Silicates less than 1% crystalline silica; (Mineral dust), Mica less than 1% crystalline silica; (Mineral dust), 2-Butoxyethanol Preparations containing material at weight ratio of 1% or more; EGBE, Iron oxide (Dust and fume), as Fe; Preparations containing material at weight ratio more than 1%

ISHA Enforcement Regs Annex 12-2 (Harmful Factors Subject to Special Health Check-up) : The following components are listed: Isopropyl alcohol, Methyl n-amyl ketone, 2-Butoxyethanol; EGBE, Iron oxide as Fe; (dust and fume)

Section 15. Regulatory information

Standard of Industrial Safety and Health Annex 12 (Hazardous substances subject to control) : The following components are listed: isopropyl alcohol, methyl n-amyl ketone, 2-butoxyethanol, iron and its compounds

B. Regulation according to Chemicals Control Act

CCA Article 20 Toxic Chemicals (K-Reach Article 20) : Not applicable

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

CCA Article 20 Restricted (K-Reach Article 27) : None of the components are listed.

CCA Article 11 (TRI) : The following components are listed: 2-Propanol

Korea inventory : All components are listed or exempted.

CCA 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 petroleums - 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.

B. Date of issue/Date of revision : 5/26/2020

C. Version : 5
Prepared by : EHS

D. Other

Procedure used to derive the classification

Section 16. Other information

Classification	Justification
<input checked="" type="checkbox"/> Not supported	On basis of test data
Not supported	Calculation method
Not supported	Calculation method
Not supported	Calculation method
Not supported	Calculation method
Not supported	Calculation method

Indicates information that has changed from previously issued version.

Disclaimer

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