SAFETY DATA SHEET

Power seal lacquer spray - CLEAR

1. IDENTIFICATION

A. Product name

- Power seal lacquer spray - CLEAR

B. Recommended use and restriction on use

- General use : For coloring metal, cement, furniture etc.
- Restriction on use : Do not use it against a flame.

C. Distributor information

○ **Distributor information**

- Company name TOOLWAY INDUSTRIES LTD.
- Address 280 Hunter's Valley Road, Woodbridge, ON, Canada L4H 3V9.

www.toolway.com

2. HAZARD IDENTIFICATION

A. GHS Classification

Flammable gas: Category 1
Flammability: Category 2
Flammable aerosol: Category 1
High pressure gas: liquefied gas
Acute toxicity (dermal): Category 4
Acute toxicity (inhalation: vapor): Category 4
Acute toxicity (inhalation: dust/mist): Category 4
Skin corrosion/skin irritation: Category 2
Serious eye damage/eye irritation: Category 2 (2A/2B)
Skin sensitization: Category 1 (1A/1B)
Carcinogenicity: Category 2
Germ cell mutagenicity: Category 1B
Reproductive toxicity: Category 2
Specific target organ toxicity (repeated exposure): Category 2

B. GHS label elements

○ **Hazard symbols**

○ **Signal words**

- Danger

○ **Hazard statements**

H220 extremely flammable gas
H222 Extremely flammable aerosol
H225 Highly flammable liquid and vapor
H229 May explode when heated.
H280 High-pressure gas: May explode when heated.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.

H350 May cause cancer.

H361 Suspected of causing harm to the fetus or fertility.

H373 May cause damage to organs through prolonged or repeated exposure (Refer Section SDS 11)

○ **Precautionary statements**

1) Prevention

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P230 Keep wetted with designated appropriate material by Manufacturer / supplier

P233 Keep container tightly closed.

P234 Keep only in original container

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P242 Use only non-sparking tools. Flammable liquids (chapter 2.6) 1, 2, 3

P243 Take precautionary measures against static discharge.

P250 Do not subject to grinding/shock/friction.

P260 Do not breathe gas/mist/vapours/spray.

P261 Avoid breathing gas/mist/vapours/spray.

P264 Wash hands thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P272 Contaminated work clothing should not be allowed out of the workplace.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

2) Response

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308+P313 If exposed or concerned: Get medical advice/attention.

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

P321 Specific treatment

P332+P313 If skin irritation occurs: Get medical advice/attention.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P337+P313 If eye irritation persists: Get medical advice/attention.

P362 Take off contaminated clothing and wash before reuse.

P370+P372+P380+P373 In case of fire: Risk of explosion. Evacuate immediate area. If flames reach explosive material, do not attempt to extinguish fire.

P370+P378 In case of fire: Use Suitable extinguishing media for extinction(Refer Section MSDS 5).

P377 Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

P381 Eliminate all ignition sources if safe to do so.

3) Storage

P401 Store in accordance with applicable regulations.

P403 Store in a well-ventilated place.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P403+P235 Store in a well-ventilated place. Keep cool.

P405 Store locked up.

P410+P403 Protect from sunlight. Store in a well-ventilated place.

4) Disposal

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Trade names and Synonyms	CAS No.	Content(%)
Oxybismethane	-	115-10-6	40 ~ 43
Methyl acetate	-	79-20-9	15 ~ 17
Toluene	-	108-88-3	9 ~ 11
Propane	-	74-98-6	9 ~ 11
S - AlkydResin	-	122542-65-6	3 ~ 5

Xylene	-	1330-20-7	3 ~ 5
Nitrocellulose	-	9004-70-0	1 ~ 3
Rosin, maleated polymer with glycerol	-	68038-41-5	1 ~ 3
n-Butyl acetate	-	123-86-4	1 ~ 3
Dimethyl carbonate	-	616-38-6	1 ~ 3
2-Propanol	-	67-63-0	1 ~ 3
Acetone	-	67-64-1	1 ~ 3
2-Butoxyethanol	-	111-76-2	1 ~ 3
4-Methyl-2-pentanone	-	108-10-1	1 ~ 3

4. FIRST AID MEASURES

A. Eye contact

- Do not rub your eyes.
- Immediately flush eyes with plenty of water for at least 15 minutes and call a doctor/physician.
- Get medical attention immediately.
- Go to the hospital immediately if symptoms(flare, irritate) occur.
- Remove contact lenses if worn.

B. Skin contact

- Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
- Wash contaminated clothing thoroughly before re-using.
- Accidental contact with liquefied gas or refrigerated liquefied gas may cause burn, severe mayhem and perfrigeration, so please take emergency medical action.
- Get medical attention immediately.
- Go to the hospital immediately if symptoms(flare, irritate) occur.
- In case of accidental contact with liquefied gas or refrigerated liquefied gas, warm up the contact part with lukewarm water.
- Wash thoroughly after handling.

C. Inhalation contact

- When exposed to large amounts of steam and mist, move to fresh air.
- Take specific treatment if needed.
- Get medical attention immediately.
- If breathing is stopped or irregular, give artificial respiration and supply oxygen.

D. Ingestion contact

- Please be advised by doctor whether induction of vomit is demanded or not.
- Rinse your mouth with water immediately.
- Flush skin with plenty of wter for at least 15 minutes while removing contaminated clothing and shoes.
- Get medical attention immediately.
- If swallowed, large amounts of water to drink and do not induce vomiting.

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

- Not available

F. Notes to physician

- Notify medical personnel of contaminated situations and have them take appropriate protective measures.
- If exposed or concerned, get medical attention/advice.

5. FIREFIGHTING MEASURES

A. Suitable (Unsuitable) extinguishing media

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

B. Specific hazards arising from the chemical

- high-pressure gas; May explode when heated.

C. Special protective actions for firefighters

- In case of conflagration, use automatic fire sprinkler. Major fire may require withdrawal, allowing the object itself to burn.
- Do not access if the tank on fire.
- Use appropriate extinguishing measure suitable for surrounding fire.
- Wear appropriate protective equipment.
- Keep containers cool with water spray.
- Vapor or gas is burned at distant ignition sources can be spread quickly.
- DO NOT fight fire when fire reaches explosives.
- Due to the extremely low flash point, irrigating fire extinguishing may be less effective when put out a fire.
- Explosion hazards : Keep people away and fight fire from a safe distance.
- Leaking gas fire: do not extinguish, unless leak can be stopped safely.
- Remove sources of ignition.
- Tanks, trailers, vehicle fire: FIRE recognize the possibility container.

6. ACCIDENTAL RELEASE MEASURES

A. Personal precautions, protective equipment and emergency procedures

- Ventilate closed spaces before entering.
- Do not touch spilled material. Stop leak if you can do it without risk.
- Move container to safe area from the leak area.
- Remove all sources of ignition.
- Do not direct water at spill or source of leak.
- Avoid skin contact and inhalation.
- Cleanup and disposal under expert supervision is advised.
- Keep unauthorized people away,isolate hazard area and deny entry.

B. Environmental precautions

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

C. Methods and materials for containment and cleaning up

- Large spill : Stay upwind and keep out of low areas. Dike for later disposal.
- Notification to central government, local government. When emissions at least of the standard amount
- Dispose of waste in accordance with local regulation.
- Appropriate container for disposal of spilled material collected.
- Small leak: sand or other non-combustible material, please let use absorption.
- Wipe off the solvent.
- Dike for later disposal.
- Do not use plastic containers.

7. HANDLING AND STORAGE

A. Precautions for safe handling

- Avoid direct physical contact.
- Since emptied containers retain product residue(vapor, liquid, solid) follow all MSDS and label warnings even after container is emptied.
- Avoid contact with incompatible materials.
- Refer to Engineering controls and personal protective equipment.
- Do not inhale the steam prolonged or repeated.
- Avoid contact with heat, sparks, flame or other ignition sources.
- Contaminated work clothing should not be allowed out of the workplace.
- Handling only authorized person.

B. Conditions for safe storage, including any incompatibilities

- Store according to current laws and regulations
- Do not apply any physical shock to container.
- Keep in the original container.
- Please pay attention to incompatibilities materials and conditions to avoid.

- No open fire.
- By specifying a storage area for carcinogenic substances.
- Collected them in sealed containers.
- Do not eat, drink or smoke when using this product.
- Store in well ventilated area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

A. Exposure limits

○ **ACGIH TLV**

- [Methyl acetate] : TWA, 200 ppm (606 mg/m3), STEL, 250 ppm (757 mg/m3)
- [Toluene] : TWA 20 ppm (75 mg/m3)
- [Propane] : asphyxiant
- [Xylene] : TWA 100 ppm (434 mg/m3), STEL, 150 ppm (651 mg/m3)
- [n-Butyl acetate] : TWA 50 ppm , STEL 150 ppm
- [2-Propanol] : TWA, 200 ppm (491 mg/m3), STEL, 400 ppm (984 mg/m3)
- [Acetone] : TWA, 500 ppm(1188 mg/m3) STEL, 750 ppm (1782 mg/m3)
- [2-Butoxyethanol] : TWA, 20 ppm (97 mg/m3)
- [4-Methyl-2-pentanone] : TWA, 20 ppm (82 mg/m3) STEL 75 ppm (307 mg/m3)

○ **OSHA PEL**

- [Methyl acetate]:200ppm 610mg/m3
- [Toluene]: 200 ppm, C 300 ppm
- [Propane]:1000ppm 1800mg/m3
- [Xylene]:100ppm 435mg/m3
- [n-Butyl acetate]:150ppm 710mg/m3
- [2-Propanol]:400ppm 980mg/m3
- [Acetone]:1000ppm 2400mg/m3
- [2-Butoxyethanol]:50ppm 240mg/m3
- [4-Methyl-2-pentanone]:100ppm 410mg/m3

B. Engineering controls

- Business owner is recommended to maintain below recommended exposure limits for the working place with general exhaust of gas/vapour/mist/fume.

C. Individual protection measures, such as personal protective equipment

○ **Respiratory protection**

- Under conditions of frequent use or heavy exposure, Respiratory protection may be needed.
- Respiratory protection is ranked in order from minimum to maximum.
- Consider warning properties before use.
- Any chemical cartridge respirator with organic vapor cartridge(s).
- Any chemical cartridge respirator with a full facepiece and organic vaporcartridge(s).
- Any air-purifying respirator with a full facepiece and an organic vapor canister.
- For Unknown Concentration or Immediately Dangerous to Life or Health : Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply. Any self-contained breathing apparatus with a full facepiece.

○ **Eye protection**

- Wear primary eye protection such as splash resistant safety goggles with a secondary protection face shield.
- Provide an emergency eye wash station and quick drench shower in the immediate work area.

○ **Hand protection**

- Wear appropriate chemical resistant glove.

○ **Skin protection**

- Wear appropriate chemical resistant protective clothing.

○ **Others**

- Not available

9. PHYSICAL AND CHEMICAL PROPERTIES

A. Appearance	

- Appearance	Liquid
- Color	transparent
B. Odor	Organic solvent odor
C. Odor threshold	Not available
D. pH	Not available
E. Melting point/Freezing point	Not available
F. Initial Boiling Point/Boiling Ranges	Not available
G. Flash point	Not available
H. Evaporation rate	Not available
I. Flammability(solid, gas)	Not available
J. Upper/Lower Flammability or explosive limits	Not available
K. Vapour pressure	Not available
L. Solubility	Not available
M. Vapour density	Not available
N. Specific gravity(Relative density)	0.99±0.05
O. Partition coefficient of n-octanol/water	Not available
P. Autoignition temperature	Not available
Q. Decomposition temperature	Not available
R. Viscosity	Not available
S. Molecular weight	Not available

* Reference

Propane

A. Appearance	
- Appearance	Gas , Liquefied gas
- Color	Odorless
B. Odor	unique odor
C. Odor threshold	Not available
D. pH	Not available
E. Melting point/Freezing point	-189.7 ℃
F. Initial Boiling Point/Boiling Ranges	-42 ℃
G. Flash point	-105 ℃
H. Evaporation rate	Not available
I. Flammability(solid, gas)	Flammable gas
J. Upper/Lower Flammability or explosive limits	9.5 / 2.1 %
K. Vapour pressure	840kPa (at 25 ℃)
L. Solubility	(Water solubility : 62.4mg/l at 25 ℃ Solvent availability : Availability : Pure alcohol, Ether, Chloroform, Benzene, turpentine)
M. Vapour density	1.55 ((Air=1))
N. Specific gravity(Relative density)	0.5853 (at -45 C (water=1))
O. Partition coefficient of n-octanol/water	2.36
P. Autoignition temperature	450℃
Q. Decomposition temperature	Not available
R. Viscosity	Not available
S. Molecular weight	44.11

Dimethyl ether

A. Appearance	
- Appearance	Gas
- Color	Transparency
B. Odor	Ether ordor
C. Odor threshold	Not available
D. pH	Not available
E. Melting point/Freezing point	-141.5 ℃
F. Initial Boiling Point/Boiling Ranges	-23.6 ℃
G. Flash point	- 80 ℃
H. Evaporation rate	Not available

	I. Flammability(solid, gas)	Not available
	J. Upper/Lower Flammability or explosive limits	26.7 / 3.4%
	K. Vapour pressure	5.12 hPa at 20℃
	L. Solubility	2.4 / 100ml
	M. Vapour density	1.6
	N. Specific gravity(Relative density)	0.61
	O. Partition coefficient of n-octanol/water	0.1
	P. Autoignition temperature	350 ℃
	Q. Decomposition temperature	Not available
	R. Viscosity	Not available
	S. Molecular weight	46.1

10. STABILITY AND REACTIVITY

A. Chemical Stability

- high-pressure gas; May explode when heated.
- May form explosive mixture.

B. Possibility of hazardous reactions

- Contact with other combustible material may cause fire.
- Cylinders exposed to fire may vent and release flammable gas.
- May explode if heated.

C. Conditions to avoid

- Avoid contact with incompatible materials and condition.
- Avoid : Accumulation of electrostatic charges, Heating, Flames and hot surfaces
- Avoid contact with heat, sparks, flame or other ignition sources.

D. Incompatible materials

- Not available

E. Hazardous decomposition products

- May emit flammable vapour if involved in fire.

11. TOXICOLOGICAL INFORMATION

A. Information on the likely routes of exposure

○ **(Respiratory tracts)**

- May be fatal if swallowed and enters airways

○ **(Oral)**

- Toxic if swallowed

○ **(Eye·Skin)**

- Causes serious eye irritation
- Causes skin irritation
- May cause an allergic skin reaction

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

○ **Acute toxicity**

*** Oral**

- Product (ATEmix) : 2000mg/kg < ATEmix <= 5000mg/kg
- [Methyl acetate] : LD50 > 5000 ㎎/㎏ Rat (NITE)
- [Toluene] : LD50 5580 ㎎/㎏ Rat (EU Method B.1) (ECHA)
- [Xylene] : LD50=3523 mg/kg rat (EU Method B1) (ECHA)
- [Carbon black] : LD50 = 15400 ㎎/㎏ Rat (NITE(2006))
- [Nitrocellulose] : LD50 5000 ㎎/㎏ Rat
- [2-Butoxyethanol] : LD50 = 1746 ㎎/㎏ Rat (SIDS (1997))
- [n-Butyl acetate] : LD50 12.2 ㎖/㎏ Rat (ECHA)

- [Dimethyl carbonate] : LD50 = 13000 ㎎/㎏ Rat
- [4-Methyl-2-pentanone] : LD50 2080 ㎎/㎏ Rat (NITE, ECHA)
- [2-Propanol] : LD50 = 4710㎎/㎏ Rat (HSDB) LD50 5840 ㎎/㎏ Rat (OECD TG 401, ECHA)
- [Titanium dioxide] : LD50 > 10000 ㎎/㎏ Rat (HSDB)
- [Acetone] : LD50 = 5280 ㎎/㎏ Rat (EHC(1990), SIDS(1997))

*** Dermal**

- Product (ATEmix) : 1000mg/kg < ATEmix <= 2000mg/kg
- [Methyl acetate] : LD50 > 5000 ㎎/㎏ Rat (NITE)
- [Toluene] : LD50 >5000 ㎎/㎏ Rabbit (ECHA)
- [Xylene] : LD50 >4350 ㎎/㎏ Rabbit (IUCLID) LD50 12126 ㎎/㎏ Rabbit (isomer: m-xylene)
- [Carbon black] : LD50 > 3000 ㎎/㎏ rabbit (NITE)
- [2-Butoxyethanol] : LD50 = 99 ㎎/㎏ Rabbit (SIDS (1997))
- [n-Butyl acetate] : LD50 > 16 mL/kg Rabbit (ECHA)
- [Dimethyl carbonate] : LD50 = 5000 ㎎/㎏ Rabbit
- [4-Methyl-2-pentanone] : LD50 >16,000 ㎎/㎏ rabbit (NITE), LD0≥2000 mg/kg OECD TG402, GLP(ECHA)
- [2-Propanol] : LD50 = 12870 ㎎/㎏ rabbit (HSDB), LD50 16400 ㎎/㎏ Rabbit (OECD TG402, ECHA)
- [Titanium dioxide] : LD50 > 10000 ㎎/㎏ Rabbit (IUCLID)
- [Acetone] : LD50 = 12870 ㎎/㎏ rabbit (EHC(1990), PATTY(1994), SIDS(1997))

*** Inhalation**

- Product (ATEmix) : 10.0mg/L < ATEmix <= 20.0mg/L
- [Oxybismethane] : gas LC50 163619 ppm/4 hr Rat (308.5 mg/L/4H)(IUCLID)
- [Methyl acetate] : Steam LCLo = 32000 ppm 4 hr Rat (NITE)
- [Toluene] : LC50 >20 ㎎/ℓ Rat (OECD TG 403) (ECHA)
- [Propane] : LC50 142500 ppm/4hr Rat (570000 ppm/15min)
- [Xylene] : LC50 5922 ppm 4 hr Rat (25.713 mg/L EPA OPP 81-3, GLP)(ECHA)
- [2-Butoxyethanol] : LC50 = 2.2 ㎎/ℓ 4 hr Rat (SIDS (1997))
- [n-Butyl acetate] : LC50 > 4.9 ㎎/ℓ 4 hr Rat (ECHA)
- [Dimethyl carbonate] : LC50 = 140 ㎎/ℓ 4 hr Rat
- [4-Methyl-2-pentanone] : LC50 11.6 ㎎/ℓ 4h Rat (OECD TG 403)(ECHA)
- [2-Propanol] : LC50 = 72.6 ㎎/ℓ 4 hr Rat (HSDB), LC50 >10000 ppm 6 hr Rat (OECE TG 403, GLP)
- [Titanium dioxide] : LC50 >3.43 ㎎/ℓ Rat (OECD TG 403)
- [Acetone] : LC50 = 76 mg/L/4hr Rat (SIDS)

○ **Skin corrosion/irritation**

- Causes skin irritation

○ **Serious eye damage/irritation**

- Causes serious eye irritation

○ **Respiratory sensitization**

- Not available

○ **Skin sensitization**

- May cause an allergic skin reaction

○ **Carcinogenicity**

*** IARC**

- [Toluene] : Group 3
- [Xylene] : Group 3
- [Carbon black] : Group 2B
- [2-Propanol] : Group 3
- [2-Butoxyethanol] : Group 3
- [Titanium dioxide] : Group 2B
- [4-Methyl-2-pentanone] : Group 2B

*** OSHA**

- Not available

*** ACGIH**

- [Toluene] : A4
- [Xylene] : A4
- [Carbon black] : A3
- [2-Propanol] : A4
- [Acetone] : A4

- [2-Butoxyethanol] : A3
- [Titanium dioxide] : A4
- [4-Methyl-2-pentanone] : A3

*** NTP**

- Not available

*** EU CLP**

- Not available

○ **Germ cell mutagenicity**

- Not available

○ **Reproductive toxicity**

- Suspected of damaging fertility or the unborn child

○ **STOT-single exposure**

- May cause damage to organs
- May cause drowsiness and dizziness.

○ **STOT-repeated exposure**

- Not available

○ **Aspiration hazard**

- May be fatal if swallowed and enters airways

12. ECOLOGICAL INFORMATION

A. Ecotoxicity

○ **Fish**

- [Methyl acetate] : LC50 = 320 ㎎/ℓ 96 hr
- [Toluene] : LC50 5.5 ㎎/ℓ 96 hr Oncorhynchus kistutch (ECHA)
- [Propane] : LC50 100 ㎎/ℓ 96 hr ((Species : Fish TLm)) (IUCLID)
- [Xylene] : LC50=3.3mg/L 96 hr (NITE)
- [2-Butoxyethanol] : LC50 > 1116 ㎎/ℓ 96 hr (NITE)
- [n-Butyl acetate] : LC50 18 ㎎/ℓ 96 hr Pimephales promelas (OECD TG 203)(ECHA)
- [4-Methyl-2-pentanone] : ECHA LD50 >179 ㎎/ℓ 96 hr Brachydanio rerio(OECD TG 203, GLP)
- [2-Propanol] : LC50 >100 ㎎/ℓ 96 hr Oryzias latipes (NITE: MOE eco-toxicity tests of chemicals, 1997)
- [Titanium dioxide] : LL50 >100 ㎎/ℓ 96 hr Oryzias latipes(OECD TG 203)
- [Acetone] : LC50 >100 ㎎/ℓ 96 hr Fathead minnows (NITE: EHC207, 1998)

○ **Crustaceans**

- [Propane] : LC50 52.157 ㎎/ℓ 48 hr (Estimate)
- [Toluene] : EC50 3.78mg/L 48hr (ECHA)
- [Xylene] : LC50 3.6 ㎎/ℓ 24 hr (OECD TG202) (ECHA)
- [Carbon black] : EC50 > 5600 ㎎/ℓ 24 hr (NITE)
- [2-Butoxyethanol] : LC50 >130 ㎎/ℓ 96 hr
- [n-Butyl acetate] : EC50 44 ㎎/ℓ 48 hr Daphnia magna (ECHA)
- [4-Methyl-2-pentanone] : ECHA EC50 >200 ㎎/ℓ 48 hr Daphnia magna(OECD TG 202, GLP)
- [2-Propanol] : ECHA LC50 5102 ㎎/ℓ 24 hr Daphnia magna(OECD TG 202)
- [Titanium dioxide] : EC50 >100 ㎎/ℓ 48 hr Daphnia magna(48h-EL50Daphnia magna>100 mg/L, 48h-EC50>100, 48h-EC10=91.2 mg/L, OECD TG 202)
- [Acetone] : LC50 8800 ㎎/ℓ 48 hr Daphnia pulex (ECHA)

○ **Algae**

- [Methyl acetate] : EC50 > 120 ㎎/ℓ 72 hr Green algae (NITE: EU-RAR, 2003)
- [Propane] : LC50 32.252 ㎎/ℓ 96 hr (Estimate)
- [Xylene] : ErC50 4.06 ㎎/ℓ 73 hr (OECD TG201, GLP) (ECHA)
- [Nitrocellulose] : EC50 = 579 ㎎/ℓ 96 hr (NITE)
- [Titanium dioxide] : ErL50 >100 ㎎/ℓ 72 hr (Pseudokirchneriella subcapitata, 72h-ErL50 Pseudokirchneriella subcapitata >100 mg/L growth rate, static, 72h-EyL50 >100 mg/L static, OECD TG 201)
- [2-Propanol] : EC50 = 2.2 ㎎/ℓ 96 hr

B. Persistence and degradability

○ **Persistence**

- [Oxybismethane] : log Kow 0.1 (ICSC)
- [Methyl acetate] : log Kow 0.18 (ICSC)

- [Propane] : log Kow 2.36
- [Toluene] : 2.73 log Kow (20 °C) (ECHA)
- [Xylene] : log Kow=3.16 (NITE)
- [Nitrocellulose] : log Kow -4.56
- [2-Butoxyethanol] : log Kow = 0.83 (PHYSPROP Database)
- [n-Butyl acetate] : 2.3 log Kow (25 °C, OECD TG 117)
- [Acetone] : -0.24 log Kow (ECHA)
- [4-Methyl-2-pentanone] : ECHA 1.9 log Kow (OECD TG 117)

○ **Degradability**

- [Acetone] : 1.85 g O2/g (APHA Standard methods No.219 1971), 1.92 mg O2/g (APHA Standard methods No.219 1971)

C. Bioaccumulative potential

○ **Bioaccumulative potential**

- [Propane] : BCF 13 (HSDB)

○ **Biodegration**

- [Oxybismethane] : 5 (%) 28 day (IUCLID)
- [Propane] : 65.7 (%) 35 day
- [Toluene] : 80 % 20 day (Readily biodegradable) (ECHA)
- [Xylene] : 90 % 28 day (OECD TG301F, GLP)(ECHA)
- [Acetone] : 62% 5 day (OECD TG 301B)(ECHA)
- [n-Butyl acetate] : 83% 28 day (OECD TG 301D) (ECHA)
- [2-Butoxyethanol] : Biodegradability = 96 (%) (NITE: existing chemical safety inspections data)
- [4-Methyl-2-pentanone] : ECHA 83% 28 day (OECD TG 301, GLP)

D. Mobility in soil

- [Oxybismethane] : Koc 27
- [Xylene] : log Kow = 3.12 (measured) (ortho), 3.2 (measured) (meta), 3.15 (measurements) (p) (5)
- [2-Propanol] : log koc= 0.03
- [4-Methyl-2-pentanone] : ECHA 101.85 Koc (estimate)

E. Other adverse effects

- Not available

13. DISPOSAL CONSIDERATIONS

A. Disposal methods

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

B. Special precautions for disposal

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

14. TRANSPORT INFORMATION

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

- 1950

B. Proper shipping name

- AEROSOLS, FLAMMABLE

C. Hazard Class

- 2.1

D. IMDG CODE/IATA DGR Packing group

- Not applicable

E. Marine pollutant

- Not applicable

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

- Local transport follows in accordance with Dangerous goods Safety Management Law.
- Package and transport follow in accordance with Department of Transportation (DOT) and other regulatory agency requirements.
- EmS FIRE SCHEDULE : F-D (Flammable gases)
- EmS SPILLAGE SCHEDULE : S-U (Gases (flammable, toxic or corrosive))

15. REGULATORY INFORMATION

A. National and/or international regulatory information

○ **POPs Management Law**

- Not applicable

○ **Information of EU Classification**

*** Classification**

- [Oxybismethane] : H220
- [Methyl acetate] : H225, H319, H336,
- [Toluene] : H225, H361d, H304, H373, H315, H336
- [Propane] : H220
- [Xylene] : H226, H332, H312, H315
- [n-Butyl acetate] : H226, H336,
- [Dimethyl carbonate] : H225
- [2-Propanol] : H225, H319, H336
- [Acetone] : H225, H319, H336,
- [2-Butoxyethanol] : H332, H312, H302, H319, H315
- [4-Methyl-2-pentanone] : H225, H332, H319, H335

○ **U.S. Federal regulations**

*** OSHA PROCESS SAFETY (29CFR1910.119)**

- [Nitrocellulose] : 1133.9975 kg 2500 lb

*** CERCLA Section 103 (40CFR302.4)**

- [Toluene] : 453.599 kg 1000 lb
- [Xylene] : 45.3599 kg 100 lb
- [n-Butyl acetate] : 2267.995 kg 5000 lb
- [Acetone] : 2267.995 kg 5000 lb
- [4-Methyl-2-pentanone] : 2267.995 kg 5000 lb

*** EPCRA Section 302 (40CFR355.30)**

- Not applicable

*** EPCRA Section 304 (40CFR355.40)**

- Not applicable

*** EPCRA Section 313 (40CFR372.65)**

- [Toluene] : Applicable
- [Xylene] : Applicable
- [2-Propanol] : Applicable
- [4-Methyl-2-pentanone] : Applicable

○ **Rotterdam Convention listed ingredients**

- Not applicable

○ **Stockholm Convention listed ingredients**

- Not applicable

○ **Montreal Protocol listed ingredients**

- Not applicable

16. OTHER INFORMATION

A. Reference

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

B. Issue date

- 2024.12.31

C. Revision number and Last date revised

D. Other

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