

MATERIAL SAFETY DATA SHEET

NAME OF PRODUCT

FILE NO.:

MSDS DATE: / /

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Lacquer Spray Colours

DISTRIBUTOR: TOOLWAY INDUSTRIES LTD.

ADDRESS: 31 Conair Parkway. Woodbridge, ON, Canada L4H 0S4 Phone: (905) 326-5450 Fax: (905) 326-5451

EMERGENCY PHONE: 1 (800) 535-5053

PRODUCT USE: For coloring metal, cement, furniture etc.

PREPARED BY: TOOLWAY INDUSTRIES LTD.

SECTION 1 NOTES:

SECTION 2: HAZARDS IDENTIFICATION

A. GHS Classification

- Explosives : Class1.1
- Flammable gases : Category1
- Gases under pressure : Liquefied gas
- Flammable liquids : Category2
- Acute toxicity (oral) : Category3
- Acute toxicity (inhalation: vapor) : Category4
- Skin corrosion/irritation : Category2
- Serious eye damage/irritation : Category2A
- Skin sensitization : Category1
- Carcinogenicity : Category2
- Reproductive toxicity : Category2
- Specific target organ toxicity(Single exposure) : Category2
- Specific target organ toxicity(Single exposure) : Category3(Narcotic effects)

B. GHS label elements

Hazard symbols



Signal words

- Danger

Hazard statements

- H201 Explosive; mass explosion hazard
- H220 Extremely flammable gas
- H225 Highly flammable liquid and vapour
- H280 Compressed gas ; Contains gas under pressure; may explode if heated
- H301 Toxic if swallowed
- H315 Causes skin irritation
- H317 May cause an allergic skin reaction
- H319 Causes serious eye irritation
- H332 Harmful if inhaled
- H336 May cause drowsiness and dizziness.
- H351 Suspected of causing cancer
- H361 Suspected of damaging fertility or the unborn child
- H371 May cause damage to organs (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.

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- P230 Keep wetted with designated appropriate material by Manufacturer / supplier
- P233 Keep container tightly closed.
- 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.
- P270 Do not eat, drink or smoke when using this product.
- 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

- P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- 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.
- P309+P311 If exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.
- P312 Call a POISON CENTER or doctor/physician if you feel unwell.
- P321 Specific treatment
- P330 Rinse mouth.
- 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.
- P363 Wash contaminated clothing before reuse.
- P370+P378 In case of fire: Use Suitable extinguishing media for extinction(Refer Section MSDS 5).
- P370+P380 In case of fire: Evacuate area.
- P372 Explosion risk in case of fire.
- P373 DO NOT fight fire when fire reaches explosives.
- 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

C. Other hazards which do not result in classification : (NFPA Classification)

○ NFPA grade (0 ~ 4 level)

- Health : 2, Flammability : 4, Reactivity : 0

SECTION 2 NOTES:

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Trade names and Synonyms	CAS No.	Content(%)
2-Butoxyethanol		111-76-2	1 ~ 3
Oxybismethane		115-10-6	42 ~ 45
n-Butyl acetate		123-86-4	1 ~ 3
Dimethyl carbonate		616-38-6	1 ~ 3
Xylene		1330-20-7	3 ~ 5
Manganese, 4-[[5-chloro-4-methyl-2-sulfophenyl]azo]-3-hydroxy-2-naphthalenecarboxylic acid complex (C.I.pigment red 048:4)		5280-66-0	1 ~ 3
Nitrocellulose		9004-70-0	1 ~ 3
Rosin, maleated polymer with glycerol		68038-41-5	1 ~ 3
Secret		-	1 ~ 5
S-Alkyd Resin		-	3 ~ 5
2-Propanol		67-63-0	1 ~ 3

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Acetone		67-64-1	1 ~ 3
Propane		74-98-6	9 ~ 11
Methyl acetate		79-20-9	15 ~ 17
Ethylbenzene		100-41-4	1 ~ 3
4-Methyl-2-pentanone		108-10-1	1 ~ 3
Toluene		108-88-3	9 ~ 11

SECTION 3 NOTES:

SECTION 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 water for at least 15 minutes while removing contaminated clothing and shoes.
- Get medical attention immediately.

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.

SECTION 4 NOTES:

SECTION 5: FIRE-FIGHTING 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

- Move containers from fire area, if you can do without the risk.
 - Cool containers with water until well after fire is out.
- Avoid inhalation of materials or combustion by-products.
- 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.

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- 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.

SECTION 5 NOTES:

SECTION 6: ACCIDENTAL RELEASE MEASURES

A. Personal precautions, protective equipment and emergency procedures

- Ventilate closed spaces before entering.
- Must work against the wind, let the upwind people to evacuate.
- 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.

SECTION 6 NOTES:

SECTION 7: HANDLING AND STORAGE

A. Precautions for safe handling

- Wash thoroughly after handling.
- Comply with all applicable laws and regulations for handling
- Get the manual before use.
- Dealing only with a well-ventilated place.
- 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.

B. Conditions for safe storage, including any incompatibilities

- Store according to current laws and regulations
- Keep in the original container.
- Keep sealed when not in use.
- Prevent static electricity and keep away from combustible materials or heat sources.
- 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.

SECTION 7 NOTES:

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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A. Exposure limits

○ ACGIH TLV

- [2-Butoxyethanol] : TWA, 20 ppm (97 mg/m³)
- [n-Butyl acetate] : TWA, 150 ppm (713 mg/m³), STEL, 200 ppm (950 mg/m³)
- [Xylene] : TWA 100 ppm (434 mg/m³), STEL, 150 ppm (651 mg/m³)
- [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)
- [Propane] : TWA, 1000 ppm
- [Methyl acetate] : TWA, 200 ppm (606 mg/m³), STEL, 250 ppm (757 mg/m³)
- [Ethylbenzene] : TWA, 20 ppm (87 mg/m³)
- [4-Methyl-2-pentanone] : TWA, 20 ppm (82 mg/m³) STEL 75 ppm (307 mg/m³)
- [Toluene] : TWA 20 ppm (75 mg/m³)

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

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

- 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 vapor cartridge(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.
- Under conditions of frequent use or heavy exposure, Respiratory protection may be needed.

○ 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

SECTION 8 NOTES:

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

A. Appearance	
- Appearance	Liquid
- Color	Red
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

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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

SECTION 9 NOTES:

SECTION 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.

SECTION 10 NOTES:

SECTION 11: TOXICOLOGICAL INFORMATION

A. Information on the likely routes of exposure

(Respiratory tracts)

- Not available

(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

- [2-Butoxyethanol] : LD50 = 1746 mg/kg Rat (SIDS (1997))

- [n-Butyl acetate] : LD50 12.2 ml/kg Rat (ECHA)

- [Dimethyl carbonate] : LD50 = 13000 mg/kg Rat

- [Xylene] : LD50=3523 mg/kg rat (EU Method B1)

- [Manganese, 4-[(5-chloro-4-methyl-2-sulphophenyl)azo]-3-hydroxy-2-naphthalenecarboxylic acid complex (C.I. pigment red 048:4)] : LD50>2500 mg/kg Rat (OECD TG 401)

- [Nitrocellulose] : LD50 5000 mg/kg Rat

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- [2-Propanol] : LD50 = 4710 mg/kg Rat (HSDB) LD50 5840 mg/kg Rat (OECD TG 401, ECHA)
- [Acetone] : LD50 = 5280 mg/kg Rat (EHC(1990), SIDS(1997))
- [Methyl acetate] : LD50 > 5000 mg/kg Rat (NITE)
- [Ethylbenzene] : LD50 = 3500 mg/kg Rat (NITE)
- [4-Methyl-2-pentanone] : LD50 2080 mg/kg Rat (NITE, ECHA)
- [Toluene] : LD50 5580 mg/kg Rat (EU Method B.1)

Dermal

- Product (ATEmix) : 200mg/kg < ATEmix <= 1000mg/kg
- [2-Butoxyethanol] : LD50 = 99 mg/kg Rabbit (SIDS (1997))
- [n-Butyl acetate] : LD50 > 16 mL/kg Rabbit (ECHA)
- [Dimethyl carbonate] : LD50 = 5000 mg/kg Rabbit
- [Xylene] : LD50 >4350 mg/kg Rabbit (IUCLID) LD50 12126 mg/kg Rabbit (isomer: m-xylene)
- [Manganese, 4-[(5-chloro-4-methyl-2-sulfolophenyl)azo]-3-hydroxy-2-naphthalenecarboxylic acid complex (C.I. pigment red 048:4)] : LD50>2500 mg/kg Rat (OECD TG 402)
- [2-Propanol] : LD50 = 12870 mg/kg rabbit (HSDB), LD50 16400 mg/kg Rabbit (OECD TG402, ECHA)
- [Acetone] : LD50 = 12870 mg/kg rabbit (EHC(1990), PATTY(1994), SIDS(1997))
- [Methyl acetate] : LD50 > 5000 mg/kg Rat (NITE)
- [Ethylbenzene] : LD50 = 15400 mg/kg Rabbit (NITE)
- [4-Methyl-2-pentanone] : LD50 >16,000 mg/kg rabbit (NITE), LD0≥2000 mg/kg OECD TG402, GLP(ECHA)
- [Toluene] : rabbit LD50=12,124 mg/kg (HSDB)

Inhalation

- Product (ATEmix) : 2.0mg/L < ATEmix <= 10.0mg/L
- [2-Butoxyethanol] : LC50 = 2.2 mg/l 4 hr Rat (SIDS (1997))
- [Oxybismethane] : gas LC50 163619 ppm/4 hr Rat (308.5 mg/L/4H)(IUCLID)
- [n-Butyl acetate] : LC50 > 4.9 mg/l 4 hr Rat (ECHA)
- [Dimethyl carbonate] : LC50 = 140 mg/l 4 hr Rat
- [Xylene] : LC50 5922 ppm 4 hr Rat (25.713 mg/L EPA OPP 81-3, GLP)
- [2-Propanol] : LC50 = 72.6 mg/l 4 hr Rat (HSDB), LC50 >10000 ppm 6 hr Rat (OECE TG 403, GLP)
- [Acetone] : LC50 = 76 mg/L/4hr Rat (SIDS)
- [Propane] : LC50 142500 ppm/4hr Rat (570000 ppm/15min)
- [Methyl acetate] : Steam LCLo = 32000 ppm 4 hr Rat (NITE)
- [Ethylbenzene] : LC50 = 17.4 mg/L/4 hr Rat (4000 ppm/4hr)(EHC, ASTDR)
- [4-Methyl-2-pentanone] : LC50 11.6 mg/l 4h Rat (OECD TG 403)(ECHA)
- [Toluene] : LC50 >20 mg/l Rat (OECD TG 403) (ECHA)

○ 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

- [2-Butoxyethanol] : Group 3
- [Xylene] : Group 3
- [2-Propanol] : Group 3
- [Ethylbenzene] : Group 2B
- [4-Methyl-2-pentanone] : Group 2B
- [Toluene] : Group 3

OSHA

- Not available

ACGIH

- [2-Butoxyethanol] : A3
- [Xylene] : A4
- [2-Propanol] : A4
- [Acetone] : A4
- [Ethylbenzene] : A3
- [4-Methyl-2-pentanone] : A3

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- [Toluene] : A4

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

- Not available

SECTION 11 NOTES:

SECTION 12: ECOLOGICAL INFORMATION

A. Ecotoxicity

Fish

- [2-Butoxyethanol] : LC50 > 1116 mg/l 96 hr (NITE)

- [n-Butyl acetate] : LC50 18 mg/l 96 hr Pimephales promelas (OECD TG 203)(ECHA)

- [Xylene] : LC50=3.3mg/L 96 hr (NITE)

- [Manganese, 4-[(5-chloro-4-methyl-2-sulfophenyl)azo]-3-hydroxy-2-naphthalenecarboxylic acid complex (C.I. pigment red 048:4)] :

LC50>100 mg/l 96 hr (Danio rerio, OECD Guideline 203, GLP, Read-across CAS no.7023-61-2)(ECHA)

- [2-Propanol] : LC50 >100 mg/l 96 hr Oryzias latipes (NITE: MOE eco-toxicity tests of chemicals, 1997)

- [Acetone] : LC50 >100 mg/l 96 hr Fathead minnows (NITE: EHC207, 1998)

-- [Propane] : LC50 100 mg/l 96 hr ((Species : Fish TLM)) (IUCLID)

- [Methyl acetate] : LC50 = 320 mg/l 96 hr

- [Ethylbenzene] : LC50 5.1 mg/l 96 hr (ECHA)

- [4-Methyl-2-pentanone] : ECHA LD50 >179 mg/l 96 hr Brachydanio rerio(OECD TG 203, GLP)

- [Toluene] : LC50 5.5 mg/l 96 hr (ECHA)

Crustaceans

- [2-Butoxyethanol] : LC50 >130 mg/l 96 hr

- [n-Butyl acetate] : EC50 44 mg/l 48 hr Daphnia magna (ECHA)

- [Manganese, 4-[(5-chloro-4-methyl-2-sulfophenyl)azo]-3-hydroxy-2-naphthalenecarboxylic acid complex (C.I. pigment red 048:4)] :

EC50>100 mg/l 48 hr Daphnia magna(OECD Guideline 202, GLP)(ECHA)

- [2-Propanol] : ECHA LC50 5102 mg/l 24 hr Daphnia magna(OECD TG 202)

- [Acetone] : LC50 8800 mg/l 48 hr Daphnia pulex (ECHA)

- [Propane] : LC50 52.157 mg/l 48 hr (Estimate)

- [Ethylbenzene] : LC50 2.4 mg/l ~ 1.8 mg/l 48 hr Mysidopsis bahia(EC50 48hr >5.2mg/L, EPA 1985, GLP)

- [4-Methyl-2-pentanone] : ECHA EC50 >200 mg/l 48 hr Daphnia magna(OECD TG 202, GLP)

- [Toluene] : EC50 3.78 mg/l 48hr (ECHA)

Algae

- [2-Propanol] : EC50 = 2.2 mg/l 96 hr

- [Propane] : LC50 32.252 mg/l 96 hr (Estimate)

- [Methyl acetate] : EC50 > 120 mg/l 72 hr Green algae (NITE: EU-RAR, 2003)

- [Ethylbenzene] : EC50 3.6 mg/l 96 hr (EPA 1985, GLP)

- [Manganese, 4-[(5-chloro-4-methyl-2-sulfophenyl)azo]-3-hydroxy-2-naphthalenecarboxylic acid complex (C.I. pigment red 048:4)] :

ErC50>100 mg/l 72 hr (Pseudokirchnerella subcapitata, OECD Guideline 201, GLP, Read-across CAS no.7023-61-2)(ECHA)

- [Nitrocellulose] : EC50 = 579 mg/l 96 hr (NITE)

B. Persistence and degradability

Persistence

- [2-Butoxyethanol] : log Kow = 0.83 (PHYSPROP Database)

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- [Oxybismethane] : log Kow 0.1 (ICSC)
- [n-Butyl acetate] : 2.3 log Kow (25 °C, OECD TG 117)
- [Xylene] : log Kow=3.16 (NITE)
- [Manganese, 4-[(5-chloro-4-methyl-2-sulfophenyl)azo]-3-hydroxy-2-naphthalenecarboxylic acid complex (C.I. pigment red 048:4)] : - 0.1 logKow (at 23°C)(ETAD guideline ETAD-229)(ECHA)
- [Nitrocellulose] : log Kow -4.56
- [Acetone] : -0.24 log Kow (ECHA)
- [Propane] : log Kow 2.36
- [Methyl acetate] : log Kow 0.18 (ICSC)
 - [Ethylbenzene] : log Kow 3.6 (ECHA)
- [4-Methyl-2-pentanone] : ECHA 1.9 log Kow (OECD TG 117)
- [Toluene] : log Kow 2.73 (HSDB)

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)
- [Ethylbenzene] : BCF 1
- [Manganese, 4-[(5-chloro-4-methyl-2-sulfophenyl)azo]-3-hydroxy-2-naphthalenecarboxylic acid complex (C.I. pigment red 048:4)] : <6.9 BCF(0.03mg/l,OECD Guideline 305 C, Read-across CAS no.5281-04-9)

○ Biodegradation

- [2-Butoxyethanol] : Biodegradability = 96 (%) (NITE: existing chemical safety inspections data)
- [Oxybismethane] : 5 (%) 28 day (IUCLID)
- [n-Butyl acetate] : 83% 28 day (OECD TG 301D) (ECHA)
- [Xylene] : 39 (%) (NITE)
- [Manganese, 4-[(5-chloro-4-methyl-2-sulfophenyl)azo]-3-hydroxy-2-naphthalenecarboxylic acid complex (C.I. pigment red 048:4)] : nobiodegradation observed (100%)(ECHA)
- [Acetone] : 62% 5 day (OECD TG 301B)(ECHA)
- [Propane] : 65.7 (%) 35 day
- [Ethylbenzene] : 70-80% 28 day (ISO 14593 CO2, GLP)
- [4-Methyl-2-pentanone] : ECHA 83% 28 day (OECD TG 301, GLP)
- [Toluene] : Readily biodegradable (ECHA)

D. Mobility in soil

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

E. Other adverse effects

- Not available

SECTION 12 NOTES:

SECTION 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

RCRA HAZARD CLASS:

SECTION 13 NOTES:

SECTION 14: TRANSPORT INFORMATION

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

- 1950

B. Proper shipping name

- AEROSOLS, FLAMMABLE

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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

- EmS SPILLAGE SCHEDULE : S-U

SECTION 14 NOTES:

SECTION 15: REGULATORY INFORMATION

A. National and/or international regulatory information

POPs Management Law

- Not applicable

Information of EU Classification

* Classification

- [2-Butoxyethanol] : H332, H312, H302, H319, H315

- [Oxybismethane] : H220

- [n-Butyl acetate] : H226, H336,

- [Dimethyl carbonate] : H225

- [Xylene] : H226, H332, H312, H315

- [2-Propanol] : H225, H319, H336

- [Acetone] : H225, H319, H336,

- [Propane] : H220

- [Methyl acetate] : H225, H319, H336,

- [Ethylbenzene] : H225, H332

- [4-Methyl-2-pentanone] : H225, H332, H319, H335

- [Toluene] : H225, H361d, H304, H373, H315, H336

U.S. Federal regulations

* OSHA PROCESS SAFETY (29CFR1910.119)

- [Nitrocellulose] : 1133.9975 kg 2500 lb

* CERCLA Section 103 (40CFR302.4)

- [n-Butyl acetate] : 2267.995 kg 5000 lb

- [Xylene] : 45.3599 kg 100 lb

- [Acetone] : 2267.995 kg 5000 lb

- [Ethylbenzene] : 453.599 kg 1000 lb

- [4-Methyl-2-pentanone] : 2267.995 kg 5000 lb

- [Toluene] : 453.599 kg 1000 lb

* EPCRA Section 302 (40CFR355.30)

- Not applicable

* EPCRA Section 304 (40CFR355.40)

- Not applicable

* EPCRA Section 313 (40CFR372.65)

- [Xylene] : Applicable

- [2-Propanol] : Applicable

- [Ethylbenzene] : Applicable

- [4-Methyl-2-pentanone] : Applicable

- [Toluene] : Applicable

Rotterdam Convention listed ingredients

- Not applicable

Stockholm Convention listed ingredients

- Not applicable

Montreal Protocol listed ingredients

- Not applicable

SECTION 15 NOTES:

SECTION 16: OTHER INFORMATION

A. Reference

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- 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