



Akzonobel Industrial Coatings Korea

# MATERIAL SAFETY DATA SHEET

## TAN TAN CLEAR 2G(AUTO\_TX-F)

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### 1. IDENTIFICATION

#### A. Product name

- TAN TAN CLEAR 2G(AUTO\_TX-F)

#### B. Recommended use and restriction on use

- General use : paint applied on plastic resin
- Restriction on use : Do not use for other purposes

#### C. Manufacturer / Supplier / Distributor information

##### ○ Manufacturer information

- Company name : Akzonobel Industrial Coatings Korea Ltd.
- Address : 60, Bonsan 1-ro 56beon-gil, Jinyeong-eup, Gimhae-si, Gyeongsangnam-do, Korea
- Dept. :
- Telephone number :
- Emergency telephone number : (82) 55-720-0200
- Fax number :
- E-mail address :

##### ○ Supplier/Distributor information

- Company name : Akzonobel Industrial Coatings Korea Ltd.
- Address : 11, Byeolmang-ro 459beon-gil, Danwon-gu, Ansan-si, Gyeonggi-do, Korea
- Dept. :
- Telephone number :
- Emergency telephone number : (82) 31-490-4200
- Fax number :
- E-mail address :

### 2. HAZARD IDENTIFICATION

#### A. GHS Classification

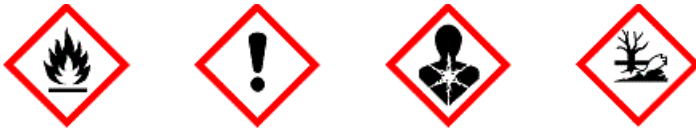
- Chronic aquatic toxicity : Category2
- Carcinogenicity : Category1B
- Serious eye damage/irritation : Category2
- Flammable liquids : Category3
- Specific target organ toxicity(Single exposure) : Category1
- Skin corrosion/irritation : Category2

#### B. GHS label elements

- Hazard symbols



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○ **Signal words**

- Warning
- Danger

○ **Hazard statements**

- H226 Flammable liquid and vapour
- H315 Causes skin irritation
- H319 Causes serious eye irritation
- H350 May cause cancer
- H370 Causes damage to organs(Refer Section SDS 11)
- H411 Toxic to aquatic life with long lasting effects

○ **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.
- 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.
- P260 Do not breathe gas/mist/vapours/spray.
- P264 Wash hands thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P281 Use personal protective equipment as required.

**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.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P307+P311 If exposed: Call a POISON CENTER or doctor/physician.
- P308+P313 If exposed or concerned: Get medical advice/attention.
- P321 Specific treatment
- P332+P313 If skin irritation 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+P378 In case of fire: Use Suitable extinguishing media for extinction(Refer Section MSDS 5).
- P391 Collect spillage.

**3) Storage**

- P403+P235 Store in a well-ventilated place. Keep cool.
- P405 Store locked up.

**4) Disposal**

- P501 Disposal 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 : 2, Reactivity : 0



### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Trade names and Synonyms	CAS No.	Content(%)
Acrylic copolymer	-	-	35 ~ 45
Propylene glycol methyl ether acetate	Propylene glycol monomethyl ether acetate	108-65-6	15 ~ 25
n-Butyl acetate	Acetic acid, butyl ester	123-86-4	10 ~ 20
DIACETONE ALCOHOL	4-Hydroxy-4-methyl-2-pentanone	123-42-2	5 ~ 15
2-Butoxyethanol acetate	Butyl cellosolve acetate	112-07-2	1 ~ 10
Pentanedioic acid, dimethyl ester	Pentanedioic acid, 1,5-dimethyl ester	1119-40-0	1 ~ 10
Solvent naphtha (petroleum), light arom.	Naphtha	64742-95-6	1 ~ 10
Hexanedioic acid dimethyl ester	Dimethyl adipate	627-93-0	1 ~ 10
Secret	Secret	-	1 ~ 10

### 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.
- Laundering enough contaminated clothing before reuse.
- Get medical attention immediately.
- Go to the hospital immediately if symptoms (flare, irritate) occur.
- Remove contaminated clothing, shoes and isolate.
- Wash thoroughly after handling.
- Wear gloves when washing the patient, and please avoid contact with contaminated clothing.

#### 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

- About whether I should induce vomiting Take the advice of a doctor.
- Rinse your mouth with water immediately.
- 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.

### 5. FIREFIGHTING MEASURES

#### A. Suitable (Unsuitable) extinguishing media



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

### **B. Specific hazards arising from the chemical**

- Not available

### **C. Special protective actions for firefighters**

- Notify your local firestation and inform the location of the fire and characteristics hazard.
- Avoid inhalation of materials or combustion by-products.
- 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.
- The extremely low flash point made by fire-fighters may be less effective at digesting weeks.

## **6. ACCIDENTAL RELEASE MEASURES**

### **A. Personal precautions, protective equipment and emergency procedures**

- Wear proper personal protective apparatus as indicated in Section 8 and avoid skin contact and inhalation.
- 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.
- 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.
- Prevent the influx to waterways, sewers, basements or confined spaces.
- Spilled material should be treated as a potential risk of waste collected.

## **7. HANDLING AND STORAGE**

### **A. Precautions for safe handling**

- 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.
- Get the manual before use.
- Do not handle until all safety precautions have been read and understood.
- Do not inhale the steam prolonged or repeated.
- Avoid contact with heat, sparks, flame or other ignition sources.



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

## B. Conditions for safe storage, including any incompatibilities

- Do not use damaged containers.
- Do not apply any physical shock to container.
- Avoid direct sunlight.
- Keep in the original container.
- Keep sealed when not in use.
- By specifying a storage area for carcinogenic substances.
- Collected them in sealed containers.
- Store away from water and sewer.
- Store in well ventilated area.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### A. Exposure limits

- **ACGIH TLV**
  - [n-Butyl acetate] : TWA, 150 ppm (713 mg/m<sup>3</sup>), STEL, 200 ppm (950 mg/m<sup>3</sup>)
  - [DIACETONE ALCOHOL] : TWA, 50 ppm (238 mg/m<sup>3</sup>)
  - [2-Butoxyethanol acetate] : TWA, 20 ppm (131 mg/m<sup>3</sup>)
  - [Secret] : TWA, 25 ppm (145 mg/m<sup>3</sup>)
  - [Secret] : TWA 100 ppm (434 mg/m<sup>3</sup>), STEL, 150 ppm (651 mg/m<sup>3</sup>)
  - [Secret] : TWA, 20 ppm (87 mg/m<sup>3</sup>)
  - [Secret] : TWA, 200 ppm (262 mg/m<sup>3</sup>) STEL, 250 ppm (328 mg/m<sup>3</sup>) Skin
  - [Secret] : TWA 20 ppm (75 mg/m<sup>3</sup>)

### B. Engineering controls

- A system of local and/or general exhaust is recommended to keep employee exposures above the Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. The use of local exhaust ventilation is recommended to control emissions near the source.

### C. 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 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.
- **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



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A. Appearance	
- Appearance	Liquid
- Color	CLEAR
B. Odor	Not available
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	23 °C ~ 70 °C
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)	1.01±0.03
O. Partition coefficient of n-octanol/water	Not available
P. Autoignition temperature	Not available
Q. Decomposition temperature	Not available
R. Viscosity	50±3 Ku
S. Molecular weight	Not available

## 10. STABILITY AND REACTIVITY

### A. Chemical Stability and Reactivity

- This material is stable under recommended storage and handling conditions.

### B. Possibility of hazardous reactions

- Cylinders exposed to fire may vent and release flammable gas.

### 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)
  - Not available
- (Oral)
  - Not available
- (Eye·Skin)
  - Causes serious eye irritation
  - Causes skin irritation

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



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○ **Acute toxicity**

**\* Oral**

- [Propylene glycol methyl ether acetate] : LD50 = 8532 mg/kg Rat (IUCLID)
- [n-Butyl acetate] : LD50 = 14130 mg/kg Rat (HSDB)
- [DIACETONE ALCOHOL] : LD50 = 4000 mg/kg Rat (HSDB)
- [2-Butoxyethanol acetate] : LD50 = 2400 mg/kg Rat (HSDB)
- [Pentanedioic acid, dimethyl ester] : LD50 = 1920 mg/kg Rat (IUCLID)
- [Solvent naphtha (petroleum), light arom.] : LD50 = 8400 mg/kg Rat
- [Hexanedioic acid dimethyl ester] : LD50 = 1920 mg/kg Rat (IUCLID)
- [Secret] : LD50 > 5000 mg/kg Rat (IUCLID,NLM,THOMSON)
- [Secret] : LD50 > 5000 mg/kg Rat (NITE)
- [Secret] : LD50 = 5000 mg/kg Rat (BASF Canada Inc.)
- [Secret] : LD50 = 2369 mg/kg Rat (IUCLID)
- [Secret] : LD50 > 17000 mg/kg Rat (NLM)
- [Secret] : LD50 = 600 mg/kg Rat (NLM: ChemIDPLus)
- [Secret] : LD50=3550 mg/kg rat
- [Secret] : LD50 = 4250 mg/kg Rat
- [Secret] : LD50 > 2000 mg/kg Rat
- [Secret] : LD50 = 3500 mg/kg Rat (NITE)
- [Secret] : LD50 = 58 ~ 5000 mg/kg Rat (OECD SIDS)
- [Secret] : LD50 6200 mg/kg Rat
- [Secret] : rat LD50=2600 mg/kg

**\* Dermal**

- [Propylene glycol methyl ether acetate] : LD50 > 5000 mg/kg Rabbit (IUCLID)
- [n-Butyl acetate] : LD50 = 17600 mg/kg Rabbit (NITE(2006))
- [DIACETONE ALCOHOL] : LD50 = 13630 mg/kg Rabbit (NITE(2006,2009))
- [2-Butoxyethanol acetate] : LD50 = 1500 mg/kg rabbit (HSDB)
- [Pentanedioic acid, dimethyl ester] : LD50 = 8500 mg/kg Rat (IUCLID)
- [Solvent naphtha (petroleum), light arom.] : LD50 > 2000 mg/kg Rabbit
- [Secret] : LD50 > 5000 mg/kg Rabbit (IUCLID,NLM,THOMSON)
- [Secret] : LD50 > 2000 mg/kg Rat (SIDS)
- [Secret] : LD50 > 2000 mg/kg Rabbit (NLM)
- [Secret] : LD50 4350 mg/kg Rabbit
- [Secret] : LD50 > 5000 mg/kg Rabbit
- [Secret] : LD50 = 15400 mg/kg Rabbit (NITE)
- [Secret] : LD50 = 777 ~ 2000 mg/kg rabbit (OECD SIDS)
- [Secret] : LD50 15800 mg/kg rabbit
- [Secret] : rabbit LD50=12,000 mg/kg

**\* Inhalation**

- [Propylene glycol methyl ether acetate] : Steam LC50 = 28.8 mg/L/4 hr Rat (KOSHA)
- [n-Butyl acetate] : LC50 >21 mg/L/4hr (GLP)(ECHA)
- [Solvent naphtha (petroleum), light arom.] : LC50 > 5.2 mg/L 4 hr Rat, LC50=3400 ppm 4hr
- [Secret] : Steam LC50 6700 ppm 4 hr Rat (Equivalents : 29.09 mg/L)
- [Secret] : LC50 = 17.4 mg/L/4 hr Rat (4000 ppm/4hr)(EHC, ASTDR)
- [Secret] : Mist LC50 = 0.059 ~ 22 mg/L Rat (OECD SIDS)
- [Secret] : LC50 83.9 mg/L/4 hr Rat
- [Secret] : rat LC50=28.1 mg/L/4hr

○ **Skin corrosion/irritation**

- Causes skin irritation

○ **Serious eye damage/irritation**

- Causes serious eye irritation

○ **Respiratory sensitization**

- Not available



- **Skin sensitization**
  - Not available
- **Carcinogenicity**
  - \* **IARC**
    - [Secret] : Group 3
    - [Secret] : Group 2B
  - \* **OSHA**
    - Not available
  - \* **ACGIH**
    - [2-Butoxyethanol acetate] : A3
    - [Secret] : A4
    - [Secret] : A3
  - \* **NTP**
    - Not available
  - \* **EU CLP**
    - [Solvent naphtha (petroleum), light arom.] : Carc. 1B
- **Germ cell mutagenicity**
  - Not available
- **Reproductive toxicity**
  - Not available
- **STOT-single exposure**
  - Causes damage to organs(Refer Section SDS 11)
- **STOT-repeated exposure**
  - Not available
- **Aspiration hazard**
  - Not available

## 12. ECOLOGICAL INFORMATION

### A. Ecotoxicity

- **Fish**
  - [Propylene glycol methyl ether acetate] : LC50 ≥ 100 mg/ℓ 96 hr *Oryzias latipes*
  - [n-Butyl acetate] : LC50 = 62 mg/ℓ 96 hr
  - [DIACETONE ALCOHOL] : LC50 = 420 mg/ℓ 96 hr
  - [Pentanedioic acid, dimethyl ester] : LC50 = 13400 mg/ℓ 96 hr *Oncorhynchus mykiss*
  - [Solvent naphtha (petroleum), light arom.] : LC50 = 9.22 mg/ℓ 96 hr *Oncorhynchus mykiss*
  - [Hexanedioic acid dimethyl ester] : LC50 = 87.095 mg/ℓ 96 hr
  - [Secret] : LC50 = 50 ~ 100 mg/ℓ 96 hr *Brachydanio rerio*
  - [Secret] : LC50 = 140 mg/ℓ 96 hr
  - [Secret] : LC50 = 0.97 mg/ℓ 96 hr *Lepomis macrochirus*
  - [Secret] : LC50 = 37.79 mg/ℓ 96 hr *Lepomis macrochirus*
  - [Secret] : LC50 = 0.996 mg/ℓ 96 hr
  - [Secret] : LC50 > 20000 mg/ℓ 96 hr *Oncorhynchus mykiss*
  - [Secret] : LC50 = 31.378 mg/ℓ 96 hr
  - [Secret] : LC50 = 320 mg/ℓ 96 hr (*Danio rerio*)
  - [Secret] : LC50 = 9.09 mg/ℓ 96 hr
  - [Secret] : LC50 > 3 mg/ℓ 96 hr *Brachydanio rerio*
  - [Secret] : LC50 15400 mg/ℓ 96 hr *Lepomis macrochirus*
  - [Secret] : LC50 24 mg/ℓ 96 hr *Oncorhynchus mykiss*
- **Crustaceans**
  - [Propylene glycol methyl ether acetate] : EC50 = 373 mg/ℓ 48 hr *Daphnia magna*
  - [n-Butyl acetate] : LC50 = 32 mg/ℓ 48 hr
  - [Pentanedioic acid, dimethyl ester] : EC50 = 3940 ~ 4670 mg/ℓ 48 hr *Daphnia magna*
  - [Solvent naphtha (petroleum), light arom.] : EC50 = 6.14 mg/ℓ 48 hr *Daphnia magna*





- [Secret] : LC50 = 3317.276 mg/ℓ 48 hr
- [Secret] : LC50 = 65 mg/ℓ 24 hr
- [Secret] : EC50 = 20 mg/ℓ 24 hr
- [Secret] : LC50 = 44.5 mg/ℓ 48 hr Daphnia magna
- [Secret] : LC50 = 0.110 mg/ℓ 48 hr
- [Secret] : LC50 = 34.949 mg/ℓ 48 hr
- [Secret] : EC50 = 280 mg/ℓ 24 hr Daphnia magna
- [Secret] : EC50 = 560 mg/ℓ 48 hr Daphnia magna
- [Secret] : LC50 = 0.4 mg/ℓ 96 hr
- [Secret] : EC50 > 0.21 mg/ℓ 48 hr Daphnia magna
- [Secret] : LD50 > 100 mg/ℓ 96 hr Daphnia magna
- [Secret] : EC50 11.5 mg/ℓ 48 hr Daphnia magna

#### ○ Algae

- [Propylene glycol methyl ether acetate] : EC50 ≥ 1000 mg/ℓ 72 hr Selenastrum capricornutum
- [Solvent naphtha (petroleum), light arom.] : EC50 = 19 mg/ℓ 72 hr Selenastrum capricornutum
- [Hexanedioic acid dimethyl ester] : EC50 = 6.691 mg/ℓ 96 hr (No accurate information on Species)
- [Secret] : EC50 = 11.917 mg/ℓ 96 hr
- [Secret] : EC50 = 0.017 mg/ℓ 96 hr
- [Secret] : EC50 = 0.615 mg/ℓ 96 hr
- [Secret] : EC50 = 22.565 mg/ℓ 96 hr
- [Secret] : EC50 = 11.038 mg/ℓ 96 hr
- [Secret] : EC50 > 0.56 mg/ℓ 72 hr Other (Freshwater algae)

## B. Persistence and degradability

#### ○ Persistence

- [Propylene glycol methyl ether acetate] : log Kow = 0.43
- [n-Butyl acetate] : log Kow = 1.78
- [Pentanedioic acid, dimethyl ester] : log Kow = 0.62
- [Solvent naphtha (petroleum), light arom.] : log Kow = 2.1 ~ 6 (Estimates)
- [Hexanedioic acid dimethyl ester] : log Kow = 1.03
- [Secret] : log Kow = 0.35
- [Secret] : log Kow = 0.37 (at 25 °C)
- [Secret] : log Kow = 5.14
- [Secret] : log Kow = 1.057
- [Secret] : log Kow = -0.18
- [Secret] : log Kow = 0.97 (11.43)
- [Secret] : log Kow -0.77
- [Secret] : log Kow 2.73

#### ○ Degradability

- [2-Butoxyethanol acetate] : BOD5/COD = 0.51
- [Solvent naphtha (petroleum), light arom.] : BOD5/COD = 0.43

## C. Bioaccumulative potential

#### ○ Bioaccumulative potential

- [2-Butoxyethanol acetate] : BCF = 3.2
- [Hexanedioic acid dimethyl ester] : BCF = 1.2
- [Secret] : BCF = 1.1
- [Secret] : BCF = 1351
- [Secret] : BCF = 180.1
- [Secret] : BCF = 18.83
- [Secret] : BCF = 3
- [Secret] : BCF = 31

#### ○ Biodegradation



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- [Propylene glycol methyl ether acetate] : Biodegradability > 60 (%) 28 day
- [n-Butyl acetate] : Biodegradability = 98 (%)
- [DIACETONE ALCOHOL] : Biodegradability = 100 (%) 14 day (Aerobic, Easily decomposed)
- [2-Butoxyethanol acetate] : Biodegradability = 88 (%) 28 day (Aerobic, other bacteria: Belebtschlamm, kommunal)
- [Pentanedioic acid, dimethyl ester] : Biodegradability = 98 (%) 28 day
- [Secret] : (More than 95% decomposed after 3 days)
- [Secret] : Biodegradability = 38 (%) 28 day
- [Secret] : 39 (%)
- [Secret] : Biodegradability > 90 (%) 5 day
- [Secret] : 86 (%) 20 day

#### D. Mobility in soil

- [Hexanedioic acid dimethyl ester] : Koc = 10.9
- [Secret] : log Kow = 3.12 (measured) (ortho), 3.2 (measured) (meta), 3.15 (measurements) (p) (5)
- [Secret] : log Kow = 3.15 (11)

#### E. Other adverse effects

- Not available

### 13. DISPOSAL CONSIDERATIONS

#### A. Disposal methods

- Since more than two kinds of designaed waste is mixed, it is difficult to treat seperatly, 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.
- High temperature incinerate
- After taking off organic solvents that are supposed to be recycled, incinerate the rest of them at a high degree.

#### B. Special precautions for disposal

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

### 14. TRANSPORT INFORMATION

#### A. UN number

- 1263

#### B. Proper shipping name

- PAINT INCLUDING PAINT, LACQUER, ENAMEL, STAIN, SHELLAC SOLUTIONS, VARNISH, POLISH, LIQUID FILLER, AND LIQUID LACQUER BASE

#### C. Hazard class

- 3

#### D. Packing group

- III

#### E. Marine pollutant

- 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.



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- EmS FIRE SCHEDULE : F-E (Non-water-reactive flammable liquids)
- EmS SPILLAGE SCHEDULE : S-E (Flammable liquids, floating on water)

## 15. REGULATORY INFORMATION

### A. National and/or international regulatory information

- **POPs Management Law**
  - Not applicable
- **Information of EU Classification**
  - \* **Classification**
    - [Propylene glycol methyl ether acetate] : R10
    - [n-Butyl acetate] : R10 R66 R67
    - [DIACETONE ALCOHOL] : Xi; R36
    - [2-Butoxyethanol acetate] : Xn; R20/21
    - [Solvent naphtha (petroleum), light arom.] : Carc. Cat. 2; R45/Muta. Cat. 2; R46, Xn; R65
    - [Secret] : R10 Xi; R37
    - [Secret] : R10 Xn; R20/21 Xi; R38
    - [Secret] : R10 Xi; R37-41
    - [Secret] : F; R11Xn; R20
    - [Secret] : F; R11 T; R23/24/25-39/23/24/25
    - [Secret] : F; R11 Repr.Cat.3; R63 Xn; R48/20-65 Xi; R38 R67
  - \* **Risk Phrases**
    - [Propylene glycol methyl ether acetate] : R10
    - [n-Butyl acetate] : R10, R66, R67
    - [DIACETONE ALCOHOL] : R36
    - [2-Butoxyethanol acetate] : R20/21
    - [Solvent naphtha (petroleum), light arom.] : R45, R65, R46
    - [Secret] : R10, R37
    - [Secret] : R10, R20/21, R38
    - [Secret] : R10, R37, R41
    - [Secret] : R11, R20
    - [Secret] : R11, R23/24/25, R39/23/24/25
    - [Secret] : R11, R38, R48/20, R63, R65, R67
  - \* **Safety Phrase**
    - [Propylene glycol methyl ether acetate] : S2
    - [n-Butyl acetate] : S2, S25
    - [DIACETONE ALCOHOL] : S2, S24/25
    - [2-Butoxyethanol acetate] : S2, S24
    - [Solvent naphtha (petroleum), light arom.] : S53, S45
    - [Secret] : S2, S24
    - [Secret] : S2, S25
    - [Secret] : S2, S24, S26, S39
    - [Secret] : S2, S16, S24/25, S29
    - [Secret] : S1/2, S7, S16, S36/37, S45
    - [Secret] : S2, S36/37, S46, S62
- **U.S. Federal regulations**
  - \* **OSHA PROCESS SAFETY (29CFR1910.119)**
    - Not applicable
  - \* **CERCLA Section 103 (40CFR302.4)**
    - [n-Butyl acetate] : 2267.995 kg 5000 lb
    - [Secret] : 45.3599 kg 100 lb
    - [Secret] : 453.599 kg 1000 lb
    - [Secret] : 2267.995 kg 5000 lb



- \* **EPCRA Section 302 (40CFR355.30)**
  - Not applicable
- \* **EPCRA Section 304 (40CFR355.40)**
  - Not applicable
- \* **EPCRA Section 313 (40CFR372.65)**
  - [Secret] : 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

- 2016-12-19

### C. Revision number and Last date revised

- 1 times, 2016-12-19

### D. Other

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

