

MATERIAL SAFETY DATA SHEET

1. Identification of the substance or mixture and of the supplier

GHS product identifier : *Brother TN210B,C,M,Y*

Recommended use of the chemical and restrictions on use.

- Recommended use: Ink
- Restrictions on use: Use for recommended use.

Supplier identifier.

- Manufacturers information

- Manufacturers name: *Clover Technologies Group*
- Address:
- *4200 Columbus St, Ottawa, IL 61350*
- Emergency phone number:
 - Tel: *815-431-8100*

- Supplier information

- Supplier name: *Clover Technologies Group*
Address: - *4200 Columbus St, Ottawa, IL 61350*
- Emergency phone number:
 - Tel: *815-431-8100*

2. Hazards identification

CLP (1272/2008 Regulation) self classification of the substance/mixture:

- Not classified in compliance with EC No. 1272/2008 and Directive 1999/45/EEC
- May produce an allergic reaction.

GHS label elements, including precautionary statements.

- Pictogram and symbol: Not applicable
- Signal word: Not applicable
- Hazard statements: Not applicable
- Precautionary statements: Not applicable

Contains anhydro trimellitic acid (TMA, CAS No. 552-30-7). May produce an allergic reaction.

NFPA

- Health: - Flammability: - Reactivity: -

3. Composition/information on ingredients

Ingredients	Common Name Synonyms	CAS No./ EC No.	Content(%)	Pre-registered Number
1.2PG	Propylene Glycol	57-55-6/ 200-338-0	20~40	05-2118304608-44-xxxx
DMT	Dimethylterephthalate	120-61-6/ 204-411-8	10~30	05-2118305753-46-xxxx
DMI	dimethyl Isophthalate	1459-93-4/ 215-951-9	10~25	05-2118306003-64-xxxx
DMIS	Dimethyl IsophthalateSulfonate Sodium salt	3965-55-7/ 223-578-8	<5	05-2118350032-59-xxxx
TMA	Anhydro Trimellitic acid	552-30-7/ 209-008-0	<1	05-2118305094-54-xxxx
UVS	UV Stabilizer	3896-11-5/ 223-445-4	<5	17-2119555626-31-xxxx
WAX	Paraffin Wax	8002-74-2/ 232-315-6	<10	05-2117403849-36-xxxx
DYE		-	<10	N/A

4. First aid measures

Eye contact:

- Keep away from exposure, if exposure effect occurred.
- In case of contact with substance, flush eyes with amount of water for at least 15 minutes.
- In case of contact with chemicals, get medical advice/attention.

Skin contact:

- Remove contaminated clothing and shoes. Wash skin with soap and water for at least 15 minutes.
- Get medical attention if skin symptoms occurred.
- Wash contaminated clothing and shoes before reuse.

Inhalation:

- Move victim to non-contaminated place in fresh air.
- Get medical attention if irritation or symptoms occurred.
- Give artificial respiration if victim is not breathing.

Ingestion:

- Get medical attention, if swallowed amount of substance.
- Get medical attention, if irritation or symptoms occurred.

Indication of immediate medical attention and notes for physician:

- Call 911 or emergency medical service. Get medical advice/attention if you needed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

5. Firefighting measures

Suitable (and unsuitable) extinguishing media:

- Suitable extinguishing media: water spray, CO₂, dry chemical, regular foam

Specific hazards arising from the chemical (ex: hazardous combustion products):

- Containers may explode when heated.
- It emits toxic fumes.

Special protective equipment and precautions for fire-fighters:

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing will only provide limited protection.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:

- Stop leak if you can do it without risk.
- Isolate exposed area.
- Keep unauthorized personnel away.
- Use certificated protective equipment.
- Ventilate the leaked area.

Environmental precautions and protective procedures:

- Ensure adequate ventilation.
- Prevent entry into waterways, sewers or basements.

The methods of purification and removal:

- Do not touch or walk through spilled material.
- Prevent entry into waterways, sewers, basements or confined areas.

7. Handling and storage

Precautions for safe handling:

- Wash thoroughly after handling.
- Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures.
- Handle in accordance with good industrial practice, handle with care and avoid any unnecessary contact.
- Keep away from heat, sparks, or open flame.
- Avoid uncontrolled procedures which may result in generating excessive dust or vapor that can be inhaled or contact the eyes.
- Use adequate local ventilation if dust or vapor generation cannot be avoided.
- Avoid skin contact with this material or solutions of this material.

Conditions for safe storage (include conditions to avoid):

- Store in a closed container.
- Keep away from waterways and sewers.
- Store in a cool, dry place away from heat, spark or open flame. Store away from other combustibles and strong oxidizers.

8. Exposure controls/personal protection

Occupational Exposure limits:

- DMT :

- Korean Occupation of Safety and Health Regulation : Not available
- ACGIH: Not available
- OSHA: Not available
- NIOSH: Not available
- Biological exposure index : Not available
- EU Regulation:

-Bulgaria : OEL - TWAs = 1.0 mg/m³
-Canada - Ontario : OEL - TWAs - TWAEVs = 5 mg/m³
-Romania : OEL TWAs = 2 mg/m³

- DMI :

- Korean Occupation of Safety and Health Regulation : Not available
- ACGIH: Not available
- OSHA: Not available
- NIOSH: Not available
- Biological exposure index : Not available
- EU Regulation:

-Russia : OEL - TWAs = 0.3 mg/m³ TWA (aerosol)

- DMIS :

- Korean Occupation of Safety and Health Regulation : Not available
- ACGIH: Not available
- OSHA: Not available
- NIOSH: Not available
- Biological exposure index : Not available
- EU Regulation: Not available

- 1,2PG:

- Korean Occupation of Safety and Health Regulation : Not available
- ACGIH: Not available
- OSHA: Not available
- NIOSH: Not available
- Biological exposure index : Not available
- EU Regulation: Not available
- Ireland - OEL – TWAs = 150 ppm TWA (total vapour and particulates); 470 mg/m³ TWA (total vapour and particulates); 10 mg/m³ TWA (particulate)
- New Zealand - Workplace Exposure Limits - TWAs = 150 ppm TWA (vapour and particulates); 474 mg/m³ TWA (vapour and particulates); 10 mg/m³ TWA (particulates only)

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- Norway - OEL - STELs = 37.5 ppm STEL; 118.5 mg/m³ STEL
- Norway - OEL – TWAs = 25 ppm TWA; 79 mg/m³ TWA
- Australia - OEL - TWAs = 150 ppm TWA (total vapour and particulates); 474 mg/m³ TWA (total vapour and particulates); 10 mg/m³ TWA (particulates only))

-TMA :

- Korean Occupation of Safety and Health Regulation : TWA - 0.005(ppm), 0.04(mg/m³)
- ACGIH: TWA - 0.005(ppm), STEL - 0.002(mg/m³)
- OSHA: Not available
- NIOSH: TWA - 0.005(ppm), 0.04(mg/m³)
- Biological exposure index : Not available
- EU Regulation:
 - France : OEL - TWAs = 0.005 ppm VME (fume); 0.04 mg/m³ VME (fume)
 - Germany - TRGS 900 : OEL - TWAs = 0.04 mg/m³ TWA (respirable fraction, smoke, exposure factor 1)
 - Greece : OEL - TWAs = 0.005 ppm TWA; 0.04 mg/m³ TWA
- Australia : OEL- TWAs= 0.005 ppm TWA; 0.039 mg/m³ TWA
- Austria : OEL - MAKs = 0.005 ppm MAK (smoke); 0.04 mg/m³ MAK (respirable fraction, smoke)
- Canada - Alberta : OEL - Ceilings = 0.04 mg/m³ Ceiling
- Canada - British Columbia : OEL - TWAs = 0.0005 mg/m³ TWA (aerosol, inhalable, and vapour)
- Canada - Manitoba : OEL - TWAs = 0.0005 mg/m³ TWA (inhalable fraction and vapor)
- Colombia : OEL - TWAs = 0.0005 mg/m³ TWA (inhalable fraction and vapor)
- Estonia : OEL - TWAs = 0.04 mg/m³ TWA

-UVS :

- Korean Occupation of Safety and Health Regulation : Not available
- ACGIH: Not available
- OSHA: Not available
- NIOSH: Not available
- Biological exposure index : Not available
- EU Regulation: Not available

- WAX :

- Korean Occupation of Safety and Health Regulation : TWA - 2(mg/m³)
- ACGIH: TWA - 2(mg/m³)
- OSHA: Not available
- NIOSH: TWA - 0.005(ppm), 0.04(mg/m³)
- Biological exposure index : Not available
- EU Regulation:
 - Israel : OEL - TWAs = 2 mg/m³ VME (fume)
 - France : OEL - TWAs = 2 mg/m³ VME (fume)
 - Finland : OEL - TWAs = 1 mg/m³ TWA
 - Denmark : OEL - TWAs = 2 mg/m³ TWA (fume)

Appropriate engineering controls:

- Provide local exhaust ventilation system or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

- Check legal suitability of exposure level.

Personal protective equipment

- Respiratory protection: Wear NIOSH or European Standard EN 149 approved full or half face piece (with goggles) respiratory protective equipment when necessary.
- Eye protection:
 - An eye wash unit and safety shower station should be available nearby work place.
 - Wear safety glasses to protect eyes from scattering toxic substance.
- Hand protection: Wear chemical resistant gloves to avoid direct contact with chemical substance.
- Body protection: Wear appropriate protective chemical resistant clothing to prevent exposure of skin.

9. Physical and chemical properties

Appearance: fluffy particles

Odor: None

Odor threshold: Not available

Taste: Not available

Taste threshold: Not available

pH: Not available

Melting point/freezing point: None but softens at about 60°C/ Not available

Initial boiling point and boiling range: Not available

Flash point: Not available

Evaporation rate: Not available

Flammability : Not available

Upper/lower flammability or explosive limits: Not available

Vapor pressure: Not available

Vapor density: Not available

Relative density: Not available

Solubility (ies): Insoluble

Specific gravity: Not available

Partition coefficient: n-octanol/water: Not available

Auto ignition temperature: Not available

Decomposition temperature: Not available

Viscosity: Not available

Molecular weight: Not available

10. Stability and reactivity

Chemical stability and Possibility of hazardous reactions:

- Stable under normal temperatures and pressures.
- Hazardous polymerization reaction will not occur under conditions of room temperature.

Conditions to avoid (e.g., static discharge, shock or vibration):

- Avoid heat, flames, sparks and other sources of ignition.
- Avoid contact with incompatible materials.
- Avoid release to the environment.

Incompatible materials: strong oxidizing agents

Hazardous decomposition products: It emits toxic fumes.

11. Toxicological information

Symptoms related to the physical, chemical and toxicological characteristics;

- Acute toxicity:
 - oral: Not classified (ATEmix= 6,779 mg/kg bw) (<15% of this product consist of ingredients of unknown toxicity)
 - DMT: LD₅₀= 4,390->6,590 mg/kg bw (Rat)
 - DMI: LD₅₀= 4,390 mg/kg bw (Rat)
 - 1,2PG: LD₅₀= 19,700 mg/kg bw (Guinea pig)
 - TMA: LD₅₀= 2,030 mg/kg bw (Rat/female)
 - UVS: LD₅₀>2,000 mg/kg bw (Rat)
 - WAX: LD₅₀>4,300 mg/kg bw (Rat)
 - dermal: Not classified (ATEmix= 28,383 mg/kg bw) (<35% of this product consist of ingredients of unknown toxicity)
 - DMT: LD₅₀>5,000 mg/kg bw (Guinea pig)
 - 1,2PG: LD₅₀= 20,800 mg/kg bw (Rabbit)
 - TMA: LD₅₀= 5,600 mg/kg bw (Rabbit)
 - UVS: LD₅₀=4,350 mg/kg bw (Rat)
 - WAX: LD₅₀>3,600 mg/kg bw (Rabbit)
 - Inhalation(Dust): Not classified (ATEmix= 7.77 mg/L/4H) (<75% of this product consist of ingredients of unknown toxicity)
 - DMT: LC₅₀ 6 mg/L > /4hr (Rat)
 - TMA: LC₅₀ >2.33 mg/L/4hr(Rat)
 - UVS: LC₅₀ >0.27 mg/L /4hr (Rat)
- Skin Corrosion/ Irritation: Not classified(<35% of this product consist of ingredients of unknown toxicity)
 - DMT: Dimethyl terephthalate caused no irritation when applied to depilated Guinea pig skin.
 - 1,2PG: Not Irritating (undiluted, 4 hr, occluded)(OECD TG 404/Rabbit)
 - TMA: In rabbits, mild irritations (score=1.7/8.0) were observed following a 500 mg dermal dose of TMA applied to a 240 cm² patch of pre moistened skin for 4 hours (IITRI, 1991c). However

Signs of irritation were generally resolved within of the observation period (14 days).

- UVS: Some slight irritation, fully reversible within 72 hours, was observed in a skin irritation assay performed in rabbits. Therefore the substance was not a skin irritant.
- WAX: not irritating (human)

- Serious Eye Damage/ Irritation: Not classified (<15% of this product consist of ingredients of unknown toxicity)
 - DMT: DMT is indicated to be slightly irritating to eyes.
 - DMI: In an eye irritation test (rabbit receiving 500mg for 25hours), severe toxic effects were observed.
 - 1,2PG: Not irritating (undiluted, 0.1 mL) (OECD TG 405/Rabbit)
 - TMA: This substance is considered to have severe eye irritation potential, indicating maximum irritation index.(Draize score 110/100)
 - UVS: Mild conjunctivitis, fully reversible within 72 hours was observed in one animal out of six in an eye irritation assay performed in rabbits. Therefore the substance was not a eye irritant.
 - WAX: Six animals were each treated with 0.1 ml of test substance by using Draize Test. Five of the animals showed no eye irritation. One animal showed slight conjunctival erythema and oedema after 24 hours, but caused no skin irritation.

- Respiratory sensitization: Not classified (<62% of this product consist of ingredients of unknown toxicity)
 - 1,2PG: Not sensitizing (human)
 - TMA: Clinical syndromes associated with exposure to trimellitic anhydride dust or fume include asthma and rhinitis, late onset respiratory system syndrome, and a pulmonary disease/anemia syndrome; late asthma and late arthralgia-myalgia may also occur.

- Skin Sensitization: Not classified (<75% of this product consist of ingredients of unknown toxicity)
 - DMT: Dimethyl terephthalate caused no irritation or sensitization when applied to depilated Guinea pig skin.
 - TMA: In mice, dermal sensitization was elicited using 10-50% solutions of TMA in acetone/olive oil (0.025-0.050 mL) . In rats, dermal sensitization was produced using 25-50% solutions of TMA in acetone/corn oil (0.15 mL).
 - UVS: The substance was not skin sensitizing. A skin sensitization assay performed in guinea pigs and patch testing in humans were negative. The substance was not a photoallergen in guinea pigs.

- Carcinogenicity: Not classified (<97% of this product consist of ingredients of unknown toxicity)
 - IARC, ACGIH, NTP, OSHA, EU Regulation 1272/2008, US EPA: not listed
 - UVS: Based on test results, the substance is considered to have no carcinogenic potential.
 - WAX: Dermal studies produced no evidence of carcinogenic effects.

- Mutagenicity: Not classified (<40% of this product consist of ingredients of unknown toxicity)
 - DMT: Given the weight of evidence, DMT does not appear to be mutagenic or genotoxic in numerous in vitro (bacterial and mammalian systems) and several in vivo studies.
 - 1,2PG: Propylene glycol was not a genetic toxicant as demonstrated by a battery of invivo (micronucleus, dominant lethal, chromosome aberration) and in vitro (bacterial and mammalian cells and cultures) studies.
 - TMA:
 - In vitro*: Salmonella typhimurium ames test(S. typhimurium): Negative
 - HGPRT mutation assay: Negative
 - Chromosomal aberrations test: Negative
 - In vivo*: Not available
 - UVS:
 - In vitro*: Salmonella typhimurium ames test(S. typhimurium): Negative
 - Chromosomal aberrations test: Negative
 - In vivo*: Dominant lethal assay: No result
 - Bone marrow chromosome aberration test: Negative
 - Micronucleus assay: Negative

- Reproductive toxicity: Not classified (<40% of this product consist of ingredients of unknown toxicity)
 - DMT: Developmental or Reproductive Toxicity/ in an inhalation study, thirty pregnant rats were exposed to 1 mg/ m³ of DMT throughout gestation. No abnormal developmental effects and no pre or post-implantation losses were noted.
 - 1,2PG: No reproductive effects were found when propylene glycol was administered at up to 5% in the drinking water (reported as 10.1 g/kg bw/day) of mice. Propylene glycol did not cause fetal or developmental toxicity in rats, mice, rabbits, or hamsters (NOAELs range from 1.2 to 1.6 g/kg bw/day in four species).
 - TMA: No effect on reproductive organs in two rats and one dog sub-chronic feeding studies. NOEL approximately 500 mg/kg No effect of reproductive organs in sub-chronic rat inhalation study NOEL 0.054 mg/m³. No fetotoxicity or developmental toxicity at concentrations up to 0.5 mg/m³. No maternal toxicity other than an increase in hemorrhagic lung foci. NOEL: for developmental and teratogenic effects 0.5 mg/m³.
 - UVS: In a combined repeated dose toxicity study with reproduction/developmental toxicity screening test using rats [OECD TG 422] the substance was administered via gavage to 12 animals/sex/group at 0 (vehicle), 62.5, 250 or 1000 mg/kg bw/day. Recovery group females (6 animals/group) were dosed at 0 (vehicle), 250 or 1000 mg/kg bw/day. Males were dosed for a total of 42 days, from 14 days before mating, and females were dosed from 14 days before mating throughout the mating and pregnancy period to day 6 of lactation (44-56 days). There were no treatment-related effects at any dose in test or recovery group animals. The NOAEL for repeated dose toxicity in adult animals is 1000 mg/kg bw/day.
- Specific target organ toxicity (single exposure): Not classified(<72% of this product consist of ingredients of unknown toxicity)
 - DMT: The substance is irritating to the the respiratory tract of vapor or mist in human.
 - TMA: Irritation of the upper respiratory tract can occur immediately upon occupational exposure to a moderately heavy concentration of trimellitic anhydride and is generally accompanied by coughing, sneezing, and nasal discharge.
 - WAX: The substance is irritating to the the respiratory tract.
- Specific target organ toxicity (repeat exposure): Not classified (<35% of this product consist of ingredients of unknown toxicity)
 - DMT: According to the animal test nervous system suppression, mild anemia, increased reticulocyte count, hypertension respiratory manseongyeom, gidoyeom, lung inflammation from such research, blood system, respiratory system, liver, and kidneys to cause target organ is judged.
 - 1,2PG: Repeated exposures of rats to propylene glycol in drinking water or feed did not result in adverse effects at levels up to 10% in water (estimated at about 10 g/kg bw/day) or 5% in feed (dosage reported as 2.5 g/kg bw/day) for periods up to 2 years.
 - TMA: 13-week oral feeding study: No effect on appearance, behavior, pathology, or urine values. Dose dependent increase in leukocyte count was observed. LOEL=1000 ppm in the diet or approximately 50 mg/kg
 - UVS: In a repeated dose oral toxicity study using dogs and mice, no treatment-related deaths or clinical signs by this substance were observed in either sex.
 - WAX: Rats tested for two years showed no toxic effect
- Aspiration Hazard: Not available

12. Ecological information

Aquatic Ecotoxicity

-Acute toxicity: : Not classified

-Chronic toxicity: Not classified

- Fish: Not classified (ATEmix= 30.54 mg/l) (<22% of this product consist of ingredients of unknown toxicity)
 - DMT: 96hr-LC₅₀(*Brachydanio rerio*)=18.8 mg/l
 - DMI: 96hr-LC₅₀ 41.12 mg/l (estimated)
 - DMIS: 96hr-LC₅₀=42122.840 mg/l (estimated)
 - 1.2PG: 96hr-LC₅₀ (*Pimephales promelas*)=46,500 mg/l (OECD TG 203)
 - TMA: 96hr-NOEC (*Leuciscus idus melanotus*) >896 mg/l
 - UVS: 96hr- LC₅₀ [*Danio rerio*] > limit of water solubility
- Crustacea: Not classified(ATEmix= 88.67 mg/l) (<22% of this product consist of ingredients of unknown toxicity)
 - DMT: 48hr-LC₅₀ (*Daphnia magna*) > 26.5 mg/l
 - DMI: 48hr-LC₅₀ = 88.269 mg/l (estimated)
 - DMIS: 48hr- LC₅₀ (*Daphnia magna*)=171,000 mg/l (estimated)
 - 1.2PG :48hr-LC₅₀ (*Daphnia magna*)=43,500 mg/l(OECD TG 202)
 - TMA: 96hr-NOEC (*Daphnia magna*) >792 mg/l
 - UVS: 24hr- LC₅₀ (*Daphnia magna*) > limit of water solubility
- Algae: Not classified(ATEmix= 59.3 mg/l) (<7% of this product consist of ingredients of unknown toxicity)
 - DMT : 72hr-EC₅₀(*Scenedesmus subspicatus*)=27.6mg/l
 - DMI : 96hr-EC₅₀ =39.006mg/l (estimated)
 - DMIS : 96hr-EC₅₀ =129,000mg/l (estimated)
 - 1.2PG : 96hr-EC₅₀(*Skeletonema costatum*)=19,100mg/l
 - TMA: 96hr-NOEC (*Scenedesmus subspicatus*) ≥792 mg/l(OECD Guideline 201)
 - UVS: 72hr- EbC₅₀ (*Desmodesmus subspicatus*) > limit of water solubility

Persistence degradability:

- Persistence: This substance is expected to be low persistency, due to the BCF value and the log Kow.
- Degradability: Not available

Bioaccumulative potential:

- Bioaccumulation: bioaccumulation is expected to be low potential.
 - DMT: Log Kow =2.25, BCF =11 (estimated)
 - DMI: Log Kow =1.66(estimated), BCF =4 (estimated)
 - DMIS : Log Kow =3.28(estimated), BCF =3.162(estimated)
 - 1.2PG : PG is not expected to bioaccumulate, with a calculated BCF <1.
 - TMA: Log Kow =1.95, BCF =3.2(estimated)
 - UVS: Log Kow =5.55, low potential for bioaccumulation (196-802 (0.05 mg/l), 548-895 (0.005 mg/l))
- Biodegradation: It is not expected to be Biodegrade fast.
 - DMT: Ready biodegradability (95%/28day)
 - DMI: Ready biodegradability (94-102%/14day)
 - DMIS: Ready biodegradability
 - 1.2PG: It is readily biodegraded in water or soil.
 - TMA: Ready biodegradability (89-101%/28 day (OECD 301B))
 - UVS: Not readily biodegradable (0%/28 day (OECD 301C))
 - WAX: Ready biodegradability (78-84%/28day)

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Mobility in soil: Low potency of mobility to soil.

- DMT: Koc values =400
- DMI: Koc values =36
- 1.2PG : Koc values =1(estimated)

13. Disposal considerations

Disposal method

- Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Disposal precaution

- Consider the require attentions in accordance with waste treatment management regulation.

14. Transport information

UN Number: Not applicable

UN Proper shipping name: Not applicable

Transport Hazard class: Not applicable

Packing group: Not applicable

Marine pollutant: Not applicable

Special precautions:

- in case of fire: Not applicable
- in case of leakage: Not applicable

15. Regulatory information

Warning: by exemption, the packaging is not labelled according to Directive 1999/45/EC.
Contains anhydro trimellitic acid (TMA, CAS No. 552-30-7). May produce an allergic reaction.

Korea:

- Occupational Safety and Health Regulation :
 - TMA: Occupational exposure limits listed
 - WAX: Occupational exposure limits listed
- Toxic Chemical Control Act : Not regulated
- Dangerous Material Safety Management Regulation:
 - 1.2PG: Petroleum, class 4-3(water solubility liquid, 4000L)
- Wastes Control Act :
 - TMA: Public Controlled Waste
 - WAX: Public Controlled Waste

EU classification:

-TMA

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: **67/548/EEC**

- Classification: Xi; R37-41 - R42/43
- Risk phrases: R37, R41, R42/43
- Safety phrases: S2, S22, S26, S36/37/39

: **CLP 1272/2008:**

- Hazard Class and Category Code(s): STOT SE 3, Eye Dam. 1, Resp. Sens. 1, Skin Sens. 1
- Hazard Statement Code(s): H335, H318, H334, H317

U.S.A management information

-DMT

- **FDA - Indirect Food Additives** : 21 CFR 177.1590, 21 CFR 177.1630, 21 CFR 177.1660, 21 CFR 177.1680, 21 CFR 177.2600

-DMI

- **FDA - Indirect Food Additives** : **21 CFR 177.1590, 21 CFR 177.1630**

-1,2PG

- **FDA - Food Additives Generally Recognized as Safe (GRAS)** :21 CFR 184.1666

OTHER

-DMT

Japan management information :

;Prevention of Marine Pollution and Disaster - Noxious Liquid Substances = Present

China management information :

; Inventory of Existing Chemical Substances (IECSC) = Present

Canada management information :

; Domestic Substances List (DSL) = Present

New zealand management information :

; Inventory of Chemicals (NZIoC) = Present

Philippines management information :

; Inventory of Chemicals and Chemical Substances (PICCS) = Present

-DMI

Japan management information:

; Existing and New Chemical Substances (ENCS) : (3)-1318

China management information :

; Inventory of Existing Chemical Substances (IECSC) = Present

Canada management information:

; Non-Domestic Substances List (DSL) = Present

Australia management information :

; Inventory of Chemical Substances (AICS) = Present

-DMIS

Japan management information:

; Existing and New Chemical Substances (ENCS) : (3)-2134; (3)-1855

China management information:

; Inventory of Existing Chemical Substances (IECSC) = Present

Canada management information:

; Domestic Substances List (DSL) = Present

Philippines management information:

; Inventory of Chemicals and Chemical Substances (PICCS) = Present

-1,2PG

Japan management information:

; Existing and New Chemical Substances (ENCS) = (2)-234

China management information:

; Inventory of Existing Chemical Substances (IECSC) = Present

Canada management information:

; Domestic Substances List (DSL) = Present

New zealand management information:

; Inventory of Chemicals (NZIoC) = May be used as a single component chemical under an appropriate group standard

Philippines management information:

; Inventory of Chemicals and Chemical Substances (PICCS) = Present

-TMA

China management information:

; Inventory of Existing Chemical Substances (IECSC) = Present

Canada management information:

; Domestic Substances List (DSL) = Present

Philippines management information:

; Inventory of Chemicals and Chemical Substances (PICCS) = Present

Australias management information:

; Inventory of Chemical Substances (AICS)= Present

-UVS

Australias management information:

; Inventory of Chemical Substances (AICS)= Present

China management information:

; Inventory of Existing Chemical Substances (IECSC) = Present

Canada management information:

; Domestic Substances List (DSL) = Present

Philippines management information:

; Inventory of Chemicals and Chemical Substances (PICCS) = Present

-WAX

Japan management information:

; Existing and New Chemical Substances (ENCS) = (8)-430; (8)-414; (2)-10

China management information :

; Inventory of Existing Chemical Substances (IECSC) = Present

Canada management information:

; Domestic Substances List (DSL) = Present

Philippines management information:

; Inventory of Chemicals and Chemical Substances (PICCS) = Present

Australias management information:

; Inventory of Chemical Substances (AICS)= Present

Substance of Roterdame Protocol: Not applicable

Substance of Stockholme Protocol: Not applicable

Substance of Montreal Protocol: Not applicable

16. Other information

Information source and references:

-ECB:ESIS (European chemical Substances Information System) (<http://ecb.jrc.it/esis>)

-International Uniform Chemical Information Database (IUCLID) (<http://ecb.jrc.it/esis>)

-Screening Information Data Set (SIDS)

-IARC. Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man. Geneva: World Health Organization, International Agency for Research on Cancer, 1972-PRESENT (Multivolume wo rk)., p. S7 216 (1987)

-REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008

-Korea Occupational Health & Safety Agency: <http://www.kosha.net>

-U.S. National library of Medicine (NLM) Hazardous Substances Data Bank (HSDB): <http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB.htm>

-http://www.safe.nite.go.jp/english/ghs_index.html#manual

-EPISUITE v4.0(<http://www.epa.gov/opt/exposure/pubs/episuitel.htm>)

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-ACGIH, TLVs and BELs, Publication # 0108, 2008

-Waste Control Act enforcement regulation attached [1]

-Korea dangerous material inventory management system (<http://hazmat.nema.go.kr>)

-National chemicals information systems (<http://ncis.nier.go.kr>)

Issuing date: 10 December 2010

Revision number and date

- revision number: 2nd
- date of the latest revision: 2 December 2011

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