

MATERIAL SAFETY DATA SHEET

[1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION]

PRODUCT NAME : ML-D1630A, D2850A, D2850B
COMPANY : Samsung Electronics Company
416, Maetan-3Dong, Yeongtong-Gu, Suwon-City, Gyeonggi-Do, Korea 443-742
TELEPHONE NO. : 82-31-200-8311
EMERGENCY TELEPHONE NO. : 82-31-200-8311

[2. HAZARDS IDENTIFICATION]

MOST IMPORTANT HAZARDS AND EFFECTS

GHS CLASSIFICATION

PHYSICAL AND CHEMICAL HAZARDS : Not classified
HEALTH HAZARDS
ACUTE TOXICITY (Oral) : Not classified
ACUTE TOXICITY (Dermal) : Not classified
ACUTE TOXICITY (Inhalation) : Not applicable (Vapours)
SKIN CORROSION / IRRITATION : Classification not possible
SERIOUS EYE DAMAGE / EYE IRRITATION : Classification not possible
RESPIRATORY SENSITIZATION : Classification not possible
SKIN SENSITIZATION : Classification not possible
GERM CELL MUTAGENICITY : Classification not possible
CARCINOGENICITY : Category 2
REPRODUCTIVE TOXICITY : Classification not possible
SPECIFIC TARGET ORGAN SYSTEMIC TOXICITY
- SINGLE EXPOSURE : Classification not possible
- REPEATED EXPOSURE : Category 1 (lung)
ASPIRATION HAZARD : Classification not possible

ENVIRONMENTAL HAZARDS

HAZARDOUS TO THE AQUATIC ENVIRONMENT

- ACUTE TOXICITY : Classification not possible
- CHRONIC TOXICITY : Classification not possible

GHS LABEL ELEMENTS

PICTOGRAMS OR SYMBOLS :



SIGNAL WORD : Danger
HAZARD STATEMENTS : Suspected of causing cancer
Causes damage to organs through prolonged or repeated exposure (lung)

PRECAUTIONARY STATEMENTS

PREVENTION : Obtain special instructions before use.

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

	Do not breathe dust/fume/gas/mist/vapours/spray. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. if needed, use personal protective equipment as required.
RESPONSE	: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, If present and easy to do. Continue rinsing. IF ON SKIN: Gently wash with plenty of soap and water. IF exposed or concerned: Get medical attention/advice.
STORAGE	: Store locked up. Protect from sun. Store in a well-ventilated room (under 40 C)
DISPOSAL	: Passed to a licensed waste contractor.
SAFE HANDLING ADVICE	

[3.COMPOSITION / INFORMATION ON INGREDIENTS]

SUBSTANCE OR MIXTURE : Mixture

INGREDIENTS AND CONCENTRATION RANGE

Ingredients	Concentration Range(%)	CAS RN
Non-Linear type polyester resin from DSA	Confidential	Confidential
Carbon black	Confidential	1333-86-4
Paraffin waxes and Hydrocarbon waxes	Confidential	8002-74-2
Other components	Confidential	

[4.FIRST-AID MEASURES]

IN CASE OF INHALATION	: Remove to fresh air and keep at rest in a position comfortable for breathing. IF exposed or concerned: Get medical attention/advice.
IN CASE OF SKIN CONTACT	: Gently wash with plenty of soap and water. IF exposed or concerned: Get medical attention/advice.
IN CASE OF EYE CONTACT	: Rinse cautiously with water for several minutes. Remove contact lenses. If present and easy to do. Continue rinsing. IF exposed or concerned: Get medical attention/advice.
IN CASE OF INGESTION	: Call a POISON CENTER or doctor/physician if you feel unwell. IF exposed or concerned: Get medical attention/advice.

[5.FIRE-FIGHTING MEASURES]

EXTINGUISHING MEDIA	: Water Spray, powder
NOT SUITABLE EXTINGUISHING MEDIA	: No information available
SPECIFIC HAZARDS	: May produce irritating or toxic gases in a fire.
SPECIFIC METHODS	: Keep away from sources of ignition and use appropriate extinguishing media. Fight fire from upwind position if possible.
PROTECTION OF FIREFIGHTERS	: Use goggles in combination with dust mask, and another protection as appropriate to situation.

[6.ACCIDENTAL RELEASE MEASURES]

PERSONAL PREAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURE	: Use mask, goggles and protective gloves. Large spills : Remove person to safety. Ensure adequate ventilation. Treat from upwind position.
ENVIRONMENTAL PRECAUTIONS METHODS FOR CLEANING UP	: Do not discharge into the drains, surface waters or ground water directly. : Prevent dispersion of dust. Sweep or vacuum by dust-explosion-proof type cleaner.
PREVENTION OF SECONDARY HAZARDS	: No information available

[7.HANDLING AND STORAGE]

HANDLING TECHNICAL MEASURES	: Facilities Storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
PRECAUTIONS	: Avoid inhalation of fine dust .
SAFE HANDLING ADVICE	: Use an adequate ventilation. Wash thoroughly after handling. Use personal protective equipment as required. Do not breathe dust/fume/gas/mist/vapours/spray. Do not eat, drink or smoke when using this product. This material may cause risk of dust explosion.
STORAGE SUITABLE STORAGE CONDITIONS	: Store locked up. Keep container tightly closed. Protect from sun. Store in a well-ventilated room(under 40)
SAFE PACKAGINH MATERIALS	: No information available

[8.EXPOSURE CONTROLS / PERSONAL PROTECTION]

ENGINEERING MEASURES	: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use local exhaust ventilation, in case of generation of dust.
LIMIT VALUES ACGIH(TLV)	: 3.5mg/m3 TWA Carbon black TWA 2mg/m3 Paraffin wax fume 10mg/m3 TWA (inhalable particles, recommended);3mg/m3 TWA (respirable particles, recommended)(Particulates (insoluble or poorly soluble) not otherwise specified (PNOS))
OSHA(PEL)	: 3.5mg/m3 TWA Carbon black



15mg/m³ TWA (total dust);5mg/m³ TWA(respirable fraction)
(Particulates not otherwise regulated)

PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY PROTECTION	: Use dust mask, as appropriate to situation.
HAND PROTECTION	: Rubber gloves
EYE PROTECTION	: Safety glasses with side shield(Safety goggles or Face shield)
SKIN AND BODY PROTECTION	: Full-body suit
HYGIENE MEASURES	: No information available

[9.PHYSICAL AND CHEMICAL PROPERTIES]

PHYSICAL STATES

FORM	: Pulverizing powder
COLOUR	: Black
ODOUR	: Odourless
pH	: No data available

SPECIFIC TEMPERATURES/TEMPERATURE RANGES**AT WHICH CHANGES IN PHYSICAL STATE OCCUR**

BOILING POINT	: No information available
MELTING POINT	: No information available
FLASH POINT	: No data available

FLAMMABILITY OR EXPLOSIVE PROPERTIES

FLAMMABILITY OR EXPLOSIVE	: UPPER LIMIT: No information available LOWER LIMIT : No information available
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LIMITS

VAPOUR PRESSURE	: No information available
VAPOUR DENSITY	: No information available
SPECIFIC GRAVITY(DENSITY)	: 1.2 g/mL (20 °C) (68 °F)

SOLUBILITY

WATER SOLUBILITY	: Insoluble
SOLVENT SOLUBILITY	: Partially soluble in toluene, chloroform and tetrahydrofuran.

PARTITION COEFFICIENT :n- OCTANOL/WATER (log Pow)	: No information available
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AUTOIGNITION TEMPERATURE	: No information available
DECOMPOSITION TEMPERATURE	: No information available
ODOUR THRESHOLD	: No information available
EVAPORATION RATE	: No information available
FLAMMABILITY (SOLID, GAS)	: No information available
VISCOSITY	: No information available
OTHER DATA	: No information available

[10.REACTIVITY AND STABILITY]

CHEMICAL STABILITY	: Stable in general.
POSSIBILITY OF HAZARDOUS REACTIONS	: Stable.
CONDITIONS TO AVOID	: No information available
INCOMPATIBLE MATERIALS	: No information available
HAZARDOUS DECOMPOSITION	: No information available



PRODUCTS

OTHERS : No information available

[11. TOXICOLOGICAL INFORMATION]

ACUTE TOXICITY

Oral
INFORMATION ON PRODUCT : No information available

Dermal
INFORMATION ON PRODUCT : No information available
INFORMATION ON INGREDIENTS : No information available

Inhalation
INFORMATION ON PRODUCT : No information available
INFORMATION ON INGREDIENTS : No information available

SKIN CORROSION / IRRITATION
INFORMATION ON PRODUCT : Rabbit, undiluted, 4 hours semi-occluded application test (OECD404) :
Not classified

SERIOUS EYE DAMAGE/IRRITATION

INFORMATION ON PRODUCT : No information available
INFORMATION ON INGREDIENTS : Paraffin waxes and Hydrocarbon waxes : Category 2B; Ref.(1)

RESPIRATORY OR SKIN SENSITIZATION

RESPIRATORY
INFORMATION ON PRODUCT : No information available
INFORMATION ON INGREDIENTS : No information available

SKIN

INFORMATION ON PRODUCT : No information available

MUTAGENICITY (GERM CELL MUTAGENICITY)

INFORMATION ON PRODUCT : Ames test (TA98, TA100, TA1535, TA1537, TA1538, WP2uvrA) : Negative
INFORMATION ON INGREDIENTS : No information available

CARCINOGENICITY

INFORMATION ON PRODUCT : No information available
INFORMATION ON INGREDIENTS : Carbon black : Category 2;Ref.(1)

IARC : Group 2B : Possibly carcinogenic to humans.

Carbon black

NTP : Not listed

EU : Not listed

OSHA : Not listed

REPRODUCTION TOXICITY

INFORMATION ON PRODUCT : No information available
INFORMATION ON INGREDIENTS : No information available

SPECIFIC TARGET ORGAN SYSTEMIC TOXICITY

- SINGLE EXPOSURE

INFORMATION ON PRODUCT : No information available
INFORMATION ON INGREDIENTS : No information available

- REPEATED EXPOSURE



INFORMATION ON PRODUCT	: No information available
INFORMATION ON INGREDIENTS	: Carbon black : Category 1 (lung); Ref.(1)
ASPIRATION HAZARD	
INFORMATION ON PRODUCT	: No information available
INFORMATION ON INGREDIENTS	: No information available
OTHER INFORMATION	: No information available

[12.ECOLOGICAL INFORMATION]

ECOTOXICITY	: No information available
PERSISTENCE / DEGRADABILITY	: No information available
MOBILITY IN SOIL	: No information available
BIOACCUMULATION POTENTIAL	: No information available
OTHER ADVERSE EFFECTS	: No information available

[13.DISPOSAL CONSIDERATIONS]

Review "HANDLING AND STORAGE(Section7)"
Passed to a licensed waste contractor.
This product may cause risk of dust explosion.
Dispose of waste in accordance with local, state and federal regulations.

[14.TRANSPORTATION INFORMATION]

Follow all regulations in your country or region.

INTERNATIONAL REGULATIONS

UN CLASS / UN NUMBER	: Not applicable
SPECIAL PRECAUTIONS FOR USER	: Review "ACCIDENTAL RELEASE MEASURES(Section 6)". Review "HANDLING AND STORAGE (Section 7)". Ensure containers without breakage or leakage. Ensure containers tightly fixed. Follow all regulations in your country or region. Avoid heating(keep under 40 C).

[15.REGULATORY INFORMATION]

Follow all regulations in your country or region.

INVENTORIES	: ENCS(Japan)	Yes
	TSCA(USA)	Yes
	EINECS(EU)	No(ELINCS)
	AICS(Australia)	Yes
	DSL(Canada)	No(NDSL)
	ECL(Korea)	Yes
	PICCS(Philippines)	Yes
	IECSC(China)	Yes

[16.OTHER INFORMATION]

REFERENCES

- : -Safety data sheet for chemical product – Part 1 : Content and order of sections(ISO 11014-1)
- International Chemical Safety Cards(ICSC) (Compiler's Guide) (1994)
- (1) GHS Classification Database, National Institute of Technology and Evaluation (NITE)

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