



# MATERIAL SAFETY DATA SHEET

## [1.CHEMICAL PRODUCT AND COMPANY IDENTIFICATION]

PRODUCT NAME : ML-D3470B  
 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.COMPOSITION / INFORMATION ON INGREDIENTS]

SUBSTANCE OR PREPARATION : Preparation

INGREDIENTS AND :  
CONCENTRATION RANGE

Ingredients	Concentration Range(%)	CAS RN
Black toner		

INGREDIENTS CONTRIBUTING TO THE HAZARD(JAPAN) : None

## [3.HAZARDS IDENTIFICATION]

MOST IMPORTANT HAZARDS :  
 ADVERSE HUMAN HEALTH EFFECTS : To the best of our investigation, no special hazards have to be mentioned.  
 ENVIRONMENTAL EFFECTS : To the best of our investigation, no information about adverse Effect in the environment available.  
 PHYSICAL AND CHEMICAL HAZARDS : May cause risk of dust explosion  
 CLASS NAME FOR MSDS IN JAPAN : Not applicable

## [4.FIRST-AID MEASURES]

IN CASE OF INHALATION : Remove person to fresh air. If necessary seek medical attention.  
 IN CASE OF SKIN CONTACT : Wash material off the skin with plenty of water and soap. If necessary seek medical attention.  
 IN CASE OF EYE CONTACT : Immediately hold eyelids open and flush with a stream of water for at least 15 minutes. If necessary seek medical attention.  
 IN CASE OF INGESTION : Seek medical attention. Never give anything by mouth to an unconscious person. If possible, rinse out mouth and give one or two glasses of water or milk to drink.

## [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.



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PROTECTION OF FIREFIGHTERS : Use goggles in combination with dust mask, and another protections as appropriate to situation.

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#### [6.ACCIDENTAL RELEASE MEASURES]

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PERSONAL PRECAUTIONS : Use mask, goggles and protective gloves.  
Large spills : Remove person to safety.  
Ensure adequate ventilation.  
Treat from upwind position.

ENVIRONMENTAL PRECAUTIONS : Do not discharge into the drains, surface waters or ground water directly.

METHODS FOR CLEANING UP : Prevent dispersion of dust.  
Sweep or vacuum by dust-explosion-proof type cleaner.

PREVENTION OF SECONDARY HAZARDS : No information available

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#### [7.HANDLING AND STORAGE]

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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 : Handle in well-ventilated areas.  
Use safety glasses and protective gloves as appropriate to situation.  
Wash hands and face and gargle after handling.  
Prevent generation of dust.  
This material may cause risk of dust explosion.

STORAGE

STORAGE CONDITIONS : Keep container tightly closed.  
Protect from sun. Store in a well-ventilated room (under 40 C).

PACKAGING MATERIALS : No information available

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#### [8.EXPOSURE CONTROLS / PERSONAL PROTECTION]

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ENGINEERING MEASURES : Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.  
Use an adequate ventilation.  
Use local exhaust ventilation, in case of generation of dust.

LIMIT VALUES

ACGIH(TLV) : TWA 3.5mg/m3  
Carbon black  
TWA 2mg/m3(fume)  
Paraffin wax

OSHA(PEL) : TWA 3.5mg/m3  
Carbon black

PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY PROTECTION : Use dust mask, as appropriate to situation.

HAND PROTECTION : Rubber gloves

EYE PROTECTION : Safety goggles with side shield(Safety goggles or Face shield)

SKIN AND BODY : Full-body suit



## PROTECTION

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 data available  
MELTING POINT : No data available  
DECOMPOSITION TEMPERATURE : No data available  
FLASH POINT : No data available  
AUTOIGNITION TEMPERATURE : No data available  
EXPLOSION PROPERTIES  
EXPLOSION : UPPER LIMIT No data available LOWER LIMIT No data available  
VAPOUR PRESSURE : No data available  
VAPOUR DENSITY : No data available  
DENSITY : 1.2 g/mL ( 20.0°C ) ( 68°F )  
SOLUBILITY  
WATER SOLUBILITY : Insoluble  
SOLVENT SOLUBILITY : Partially soluble in toluene, chloroform and tetrahydrofurane.  
OCTANOL/WATER PARTITION COEFFICIENT : No data available  
OTHER DATA : No data available

## [10.REACTIVITY AND STABILITY]

STABILITY : Stable in general.  
HAZARDOUS REACTIONS : Stable.  
CONDITIONS TO AVOID : No information available  
MATERIALS TO AVOID : No information available  
HAZARDOUS DECOMPOSITION PRODUCTS : No information available  
OTHERS : No information available

## [11.TOXICOLOGICAL INFORMATION]

ACUTE TOXICITY : Oral, rat, LD50 : > 5000 mg/kg  
LOCAL EFFECTS :  
CORROSIVITY : No information available  
SKIN IRRITATION : Rabbit, undiluted, 4 hour semi-occluded application (OECD404) :  
Not irritant (According to the criteria of EU)  
EYE IRRITATION : Rabbit, undiluted, OECD405 : Not irritant (According to the criteria of EU)  
SENSITIZATION : Guinea pig, Guinea Pig Maximization Test : Negative  
CHRONIC TOXICITY/LONG TERM TOXICITY : No information available  
CARCINOGENICITY : No information available  
IARC : Group2B : Possibly carcinogenic to humans  
Carbon black  
NTP : Not established  
OSHA : Not established  
MUTAGENICITY : Ames test (TA98,TA100,TA1535,TA1537,TA1538, WP2uvrA) : Negative  
TERATOGENICITY : No information available  
REPRODUCTION TOXICITY : No information available



OTHER DATA : No information available

[12.ECOLOGICAL INFORMATION]

MOBILITY : No information available

PERSISTENCE/  
DEGRADABILITY : No information available

BIOACCUMULATION : No information available

ECOTOXICITY :

AQUATIC TOXICITY : No information available

OTHER DATA : No information available

[13.DISPOSAL CONSIDERATIONS]

Review "HANDLING AND STORAGE (Section 7)".  
 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.  
 Dispose of waste in accordance with local, state and federal regulations.

[14.TRANSPORTATION INFORMATION]

Follow all regulations in your country or region

UN CLASS/UN NUMBER : Not applicable

PRECAUTIONS : 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.

[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



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**[16.OTHER INFORMATION]**

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REFERENCE : -Safety data sheet for chemical products - Part 1: Content and order of sections(ISO 11014-1)  
-International Chemical Safety Cards(ICSC) (Compiler's Guide)(1994)

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