



**Material Safety Data Sheet**  
(MSDS)

<b>Product name</b>	<b>RAPIDON-10W</b>
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Doosan Corporation Electro-Materials BG

## 1. Chemical product and enterprise logo

**A. Name of product:** RAPIDON-10W Laminate

**B. Recommended use of the product and the limitation on use**  
 Recommended use : Material for Printed Circuit Boards  
 Limitation on use : N/A

**C. Producer and supplier:**  
**Name of producing company :** Doosan Electronics  
 Address: 661 Yongkang-Ri, Jeungpyung-Eup, Koesan-Kun, Choongchungbuk-Do, South-Korea  
 Phone: +82-43-820-8461  
 Department in charge: Production Team

**Name of Supplier Company:**  
 Address: 661 Yongkang-Ri, Jeungpyung-Eup, Koesan-Kun, Choongchungbuk-Do, South-Korea  
 Phone: +82-43-820-8461  
 Department in charge: Quality Assurance Team

## 2. Hazard overview

**A. Classification of harmfulness. Danger**  
 Physical danger : No data available  
 Health harmfulness : No data available  
 Environmental harmfulness : Not classified

**B. Warning sign items including preventive measures phrases**  
 Pictorial character: No data available  
 Signal language:: No data available  
 Harmfulness.danger.phrases: No data available  
 Preventive Measures Phrases

Prevention : Avoid inhaling dust, fume, mist, vapor, spray  
 Treat only outdoors or in the place of good ventilation

Response : If you inhaled Remove the person to fresh air. Treat respiratory distress as appropriate. Provide oxygen if necessary.  
 If you feel discomfort see your doctor (go to the hospital).

Storage : Preserve the container tightly sealed in the place with good ventilation.  
 Preserve tightly sealed.

Disposal : Dispose the content container following the regulation in case indicated in the waste management law.

**C. Other harmfulness.danger not included in the criteria of classification of harmfulness.danger**

Cas number	Health	Fire	Response
<input type="radio"/> 007440-50-8 :	1	1	0
<input type="radio"/> Cured Resin Blend	-	-	-
<input type="radio"/> Inorganic Filler	-	-	-
<input type="radio"/> 065997-17-3 :	-	-	-

## 3. Ingredient/composition information

Name of chemical	Usual name and other names	CAS Number / Identification number	Content(%)
Copper	Copper	7440-50-8	20~50
Cured Resin Blend	-	Proprietary	10~25
Inorganic Filler	-	Proprietary	15~30
Glass cloth	-	65997-17-3	10~30

## 4. First-aid measures

**A. Eye exposure**  
 Immediately flush eyes with large amounts of temperate water for a minimum of 15 minutes  
 When washing, open the eyelids and wash the eyeballs thoroughly  
 Consult an ophthalmologist for a more detailed medical evaluation.

**B. Skin exposure**  
 If irritation continues or worsens consult a doctor.  
 Remove clothes and shoes contaminated by chemicals and wash the wounds with soapy water for more than 15 minutes.

**C. Inhalation**  
 Call a doctor and get medical advice/attention  
 If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing

**D. Ingestion**  
 Induce vomiting.  
 If the patient took or drank chemicals immediately consult a doctor and take medical treatment.

**E. The most major symptom/influence of acute and chronic illness**  
 # Copper  
 Cough or sore throat when inhaling

**F. First aid and the matters that require attention of doctors**  
 Let the medical staffs know of the contaminated situations so that they too can take appropriate protective measures.

### 5. Fire safety measures

**A. Appropriate (inappropriate) fire extinguisher**

- Appropriate fire extinguisher Powder fire extinguishing chemicals. Carbon dioxide. Water spray. General foam
- Inappropriate fire extinguisher No data available

**B. Particular harmfulness generated from chemicals**

- Risk of fire and explosion : No data available

**C. Protective equipment to put on when extinguishing fire and preventive measures**

Put on protective garment which can protect the whole body.

### 6. Leak Emergency Treatment

**A. Measures and protective equipments necessary to protect human body**

No data available

**B. Measures necessary to protect environment**

- Atmosphere: No data available
- Earth : No data available
- Under water : No data available

**C. Method of purification or removal**

- In case of leaking a little amount: N/A
- In case of leaking large amount: N/A

### 7. Operation, Disposal and Storage

**A. Safe treatment method :**

Treat only in the place with good ventilation  
 Minimize the generation and accumulation of dust.  
 Avoid inhaling of dust and direct skin contact.  
 Remove contaminated clothes and wash them before reuse.

**B. Method of safe storage :**

Avoid direct contact with air.  
 Preserve it in a tightly sealed container.  
 Avoid contact with mixture-prohibited material.  
 Storage in a cool and dark place  
 Store in a place of good ventilation.

### 8. Exposure Control and Individual Protection

**A. Standard of exposure of chemicals and biological standard of exposure etc.**

- Domestic regulation

	7440-50-8	65997-17-3	Cured Resin Blend	Inorganic Filler
TWA	No data available	No data	No data	No data
STEL	No data available	No data	No data	No data

- ACGIH Regulation

	7440-50-8	65997-17-3	Cured Resin Blend	Inorganic Filler
TLV-TWA	1 mg/m3	No data	No data	No data
STEL	No data available	No data	No data	No data

- OSHA Regulation

	7440-50-8	65997-17-3	Cured Resin Blend	Inorganic Filler
TLV-TWA	1 mg/m3	No data	No data	No data
STEL	No data available	No data	No data	No data

- NIOSH Regulation

	7440-50-8	65997-17-3	Cured Resin Blend	Inorganic Filler
TLV-TWA(10 hours)	1 mg/m3	No data	No data	No data
STEL	No data available	No data	No data	No data

- Biological exposure standard

: No data

**B. Appropriate engineering management**

: No data available

**C. Personal Protective Apparatus**

- Protection of respiratory organ: : No data available
- Eye protection : : No data available
- Hands protection: : No data available
- Body protection : : No data available

## 9. Physical and Chemical Properties

Classification	Characteristics			
	7440-50-8	65997-17-3	Cured Resin Blend	Inorganic Filler
A. Appearance	Reddish glossy solid	Liquid, Solid	No data available	No data available
B. Smell	No smell	No smell	No data available	No data available
C. Smell Value	No data available	No data available	No data available	No data available
D. pH	No data available	No data available	No data available	No data available
E. Melting point/Freezing point	1083 °C	No data available	No data available	No data available
F. Boiling point/boiling point extent	2595 °C	No data available	No data available	No data available
G. Flashing point	No data available	No data available	No data available	No data available
H. Evaporating rate	No data available	No data available	No data available	No data available
I. Flammability (solid, gas)	No data available	No data available	No data available	No data available
J. Ignition highest/lowest value	No data available	No data available	No data available	No data available
K. Steam pressure	1 at 1628 C	No data available	No data available	No data available
L. Solubility	No data available	No data available	No data available	No data available
M. Vapor density	No data available	No data available	No data available	No data available
N. Specific gravity	No data available	No data available	No data available	No data available
O. n-octanol/water distribution coefficient	No data available	No data available	No data available	No data available
P. Spontaneous ignition temperature	No data available	No data available	No data available	No data available
Q. Decomposition temperature	No data available	No data available	No data available	No data available
R. Viscosity	No data available	No data available	No data available	No data available
S. Molecular weight	63.546	No data available	No data available	No data available

## 10. Stability and Reactivity

<b>A. Chemical stability :</b>	Stable in normal temperature and pressure
<b>B. Possibility of harmful response :</b>	No polymerization
<b>C. Condition to avoid :</b>	Avoid contact with mixture-prohibited material.
<b>D. Material to avoid :</b>	Water
<b>E. Harmful material generated when decomposing</b>	
No data available	

## 11. Information on toxicity

<b>A. Information on highly possible exposure route</b>	
<input type="radio"/> Inhaling through respiratory organ	: No data
<input type="radio"/> Taking through the mouth	: No data
<input type="radio"/> Skin contact	: No data
<input type="radio"/> Eyes contact	: No data
<b>B. Delayed, acute and chronic influence by short-term and long-term exposure</b>	
<input type="radio"/> Acute toxicity:	
- Through the mouth:	No data available within the extent of selected DATABASE
- Through the skin:	No data available within the extent of selected DATABASE
- Inhaling:	No data available within the extent of selected DATABASE
<input type="radio"/> Skin corrosiveness/ stimulation:	No data available within the extent of selected DATABASE
<input type="radio"/> Severe eyes damage/Stimulation:	No data available within the extent of selected DATABASE
<input type="radio"/> Respiratory organ hypersensitiveness:	No data available within the extent of selected DATABASE
<input type="radio"/> Skin hypersensitiveness:	No data available within the extent of selected DATABASE
<input type="radio"/> Carcinogenicity:	No data available within the extent of selected DATABASE
<input type="radio"/> Reproductive cell mutagenicity:	No data available within the extent of selected DATABASE
<input type="radio"/> Reproductive toxicity:	No data available within the extent of selected DATABASE
<input type="radio"/> Target organ whole body toxicity (1 time exposure):	No data available within the extent of selected DATABASE
<input type="radio"/> Target organ whole body toxicity (repeated exposure):	No data available within the extent of selected DATABASE
<input type="radio"/> Inhale harmfulness :	No data available within the extent of selected DATABASE
<b>C. Numerical measure of toxicity (acute toxicity assumed values) :</b>	
	No data

## 12. Ecological Information

### A. Aquatic and land animal ecological toxicity:

- Fishes : No data available
- Crustacean : No data available
- Algal : No data available

### B. Residual and resolvability:

- Residual : No data available
- Resolvability: No data available

### C. Living organism condensability:

- Biodegradability : No data available
- Condensability : No data available

### D. Soil movability:

- Soil movability: No data available

### E. Other harmful influence:

No data available

## 13. Waste Disposal

### A. Method of disposal

: Dispose the content container following the regulation in case indicated in the waste management law.

### B. Matters that require attention when disposing(including the method of disposing contaminated container and packing)

: Please consider the matters that require attention in case indicated in the waste management law.

## 14. Transport Information

### # Copper

#### A. UN number :

3089

#### B. UN optimal shipping name :

METAL POWDER, FLAMMABLE, N.O.S.

#### C. Grade of danger in transportation :

4.1

#### D. Container grade :

2

#### E. Marine pollution material :

No data available

#### F. Special safety measures necessary, or necessary for user to know about the transportation or means of transportation :

- Kinds of emergency measures in case of fire: F-G
- Kinds of emergency measures in case of leaking: S-G

## 15. Information on Laws and Regulations

### # Copper

<b>A. Regulation by Industry Safety and Health Law :</b>	Work environment measurement material (measurement cycle: 6 months) Management object material Special health diagnosis material (diagnosis cycle: 12 months) Exposure standard setting material
<b>B. Regulation by Harmful Chemical Material Management Law :</b>	Not applicable
<b>C. Regulation by Dangerous Material Safety Management Law :</b>	Not applicable
<b>D. Regulation by Waste Management Law :</b>	Designated Waste
<b>E. Other regulation by domestic and foreign laws :</b>	
<input type="radio"/> Residual organic pollution material management law:	Not applicable
<input type="radio"/> EU Classification Information	
- Determined classification result:	No data available
- Danger phrase:	No data available
- Prevention measure phrase:	No data available
<input type="radio"/> US management information	
'- OSHA Regulation:	Not Applicable
'- CERCLA 103 Regulation (40CFR302.4) :	2267.995 kg 5000 lb
'- EPCRA 302 Regulation (40CFR355.30) :	Not Applicable
'- EPCRA 304 Regulation (40CFR355.40) :	Not Applicable
'- EPCRA 313 Regulation (40CFR372.65) :	Not Applicable
<input type="radio"/> Rotterdam Agreement Material:	Not Applicable
<input type="radio"/> Stockholm Agreement material :	Not Applicable
<input type="radio"/> Montreal Protocol material :	Not Applicable

### # Glass cloth

<b>A. Regulation by Industry Safety and Health Law :</b>	Not applicable
<b>B. Regulation by Harmful Chemical Material Management Law :</b>	Not applicable
<b>C. Regulation by Dangerous Material Safety Management Law :</b>	Not applicable
<b>D. Regulation by Waste Management Law :</b>	Not applicable
<b>E. Other regulation by domestic and foreign laws :</b>	
<input type="radio"/> Residual organic pollution material management law:	Not applicable
<input type="radio"/> EU Classification Information	
- Determined classification result:	No data available
- Danger phrase:	No data available
- Prevention measure phrase:	No data available
<input type="radio"/> US management information	
'- OSHA Regulation:	Not Applicable
'- CERCLA 103 Regulation (40CFR302.4) :	Not Applicable
'- EPCRA 302 Regulation (40CFR355.30) :	Not Applicable
'- EPCRA 304 Regulation (40CFR355.40) :	Not Applicable
'- EPCRA 313 Regulation (40CFR372.65) :	Not Applicable
<input type="radio"/> Rotterdam Agreement Material:	Not Applicable
<input type="radio"/> Stockholm Agreement material :	Not Applicable
<input type="radio"/> Montreal Protocol material :	Not Applicable

## 16. Other information

<b>A. Source of the material :</b>	OECD Screening Information Data Set( <a href="http://webnet.oecd.org/hpv/UI/Search.aspx">http://webnet.oecd.org/hpv/UI/Search.aspx</a> ) European chemical Substances Information System(ECB-ESIS)( <a href="http://ecb.jrc.it/esis">http://ecb.jrc.it/esis</a> ) International Uniform Chemical Information Database(IUCLID)( <a href="http://ecb.jrc.it/esis">http://ecb.jrc.it/esis</a> ) National Library of Medicine(NLM)( <a href="http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?CHEM">http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?CHEM</a> ) National Library of Medicine/Hazardous Substances Data Bank(NLM/HSDB)( <a href="http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB">http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB</a> ) International Chemical Safety Cards (ICSC)( <a href="http://www.ilo.org/public/english/protection/safework/cis/products/icsc/dtasht/index.htm">http://www.ilo.org/public/english/protection/safework/cis/products/icsc/dtasht/index.htm</a> ) National Emergency Management Agency( <a href="http://www.nema.kr/hazmat/main/main.jsp">http://www.nema.kr/hazmat/main/main.jsp</a> ) Chemical Substances Hazard Assessment Report/Initial Risk Assessment Report( <a href="http://www.safe.nite.go.jp/english/sourciv/view/TotalSrchnrpt_en_faces">http://www.safe.nite.go.jp/english/sourciv/view/TotalSrchnrpt_en_faces</a> ) NITE( <a href="http://www.safe.nite.go.jp/ghs/h18_list.html">http://www.safe.nite.go.jp/ghs/h18_list.html</a> ) The ECOTOXicology database (ECOTOX)( <a href="http://cfpub.epa.gov/ecotox/quick_query.htm">http://cfpub.epa.gov/ecotox/quick_query.htm</a> ) Akron University( <a href="http://ull.chemistry.uakron.edu/erd/">http://ull.chemistry.uakron.edu/erd/</a> ) Emergency Response Guidebook(2008) International Agency for Research on cancer(IARC)( <a href="http://monographs.iarc.fr/ENG/Classification/index.php">http://monographs.iarc.fr/ENG/Classification/index.php</a> )
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<b>C. Number of Amendment and the last date of amendment :</b>	July 05 2021
<b>D. Others</b>	

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