



# HARMONY ELECTONICS CORP.

## Material Safety Data Sheet

### 1. Product and Company Identification

Product Name : Quartz Crystal HSX211S
Product Weight : 0.0039g
Name, address, and phone number of the manufacturer or supplier : HARMONY ELECTONICS CORP. No 39, Hwa Dong Roa Ta Fa Ind. District, Kaohsiung County, R.O.C. TEL: 886-7-7871555
Emergency Phone Number/Fax : 886-7-7871555/886-7-7873989

### 2. Composition, Information on Ingredients

No.	Composition Part Name	Material (Weight %)	Material	Material Analysis (Element)	CAS No.	Element (weight %)
1	BASE-CERAMIC	36.61	CERAMIC	Al <sub>2</sub> O <sub>3</sub>	1344-28-1	92.6
				Mn <sub>2</sub> O <sub>3</sub>	1317-34-6	3.4
				SiO <sub>2</sub>	14808-60-7	3.2
				MoO <sub>3</sub>	1313-27-5	0.5
				MgO	1309-48-4	0.3
2	BASE-W	9.56	METAL	Mo	7439-98-7	100
3	BASE-Ni PLATING	2.83	Ni PLATING	Ni	7440-02-0	80
				Co	7440-48-4	20
4	BASE-Au PLATING	0.81	Au PLATING	Au	7440-57-5	99.998
				Ti	7440-28-0	0.002
5	BASE-SEAL RING	17.5	METAL	Fe	7439-89-6	27
				Ni	7440-02-0	14.5
				Co	7440-48-4	8.5
				Ag	7440-22-4	42.5
				Cu	7440-50-8	7.5
6	LID-KOVAR	23.85	METAL	C	7440-44-0	0.01
				Si	7440-21-3	0.07
				Mn	7439-96-5	0.43
				Ni	7440-02-0	29.13
				Co	7440-48-4	16.98
				Cr	7440-47-3	0.05
				Fe	7439-89-6	53.33

7	LID-Ni PLATING	3.07	Ni PLATING	Ni	7440-02-0	100
8	CRYSTAL BLANK	3.08	QUARTZ	SiO2	14808-60-7	100
9	ADHESIVE	2.5	SILVER POWDER	Ag	7440-22-4	74
				Silica	14808-60-7	7
				Petroleum solvent	-	7
				Methanol	67-56-1	1
				Silicone	-	11
10	ELECTRODE	0.19	METAL	Au	7440-57-5	100

### 3. Hazard Identification

Most Important Health Hazards and Reactions	Health Hazards and Reactions : Not Applicable
	Environmental Impact : Not Applicable
	Physical and Chemical Hazards : Not Applicable
	Specific Hazards : Not Applicable
Cardinal Symptoms : Not Applicable	
Hazard Classification : Not Applicable	

### 4. First Aid Measures

First Aid Measures for Different Kinds of Exposures :
Inhalation : Will not occur
Skin Contact : Not especially
Eye Contact : First hold the eyelids open and flush the eyes with plenty of fresh water.
Ingestion : Will not occur
Most Important Symptoms and Hazard Reactions : Not Applicable
Protection to First-Aid Attendants : Not Applicable
Suggestions to Doctors : Not Applicable

### 5. Fire Fighting Measures

Suitable Extinguishing Media : Not Applicable
Special Hazards in Fire : Not Applicable
Special Fire-Fighting Procedures : Not Applicable
Required Special Protective Equipment for Fire-Fighters : Not Applicable

## 6. Accidental Release Measures

Personal Precautions : Not Applicable
Environmental Precautions : Not Applicable
Methods for Cleaning : No special attention needed.

## 7. Handling and Storage

Handling : Collect the material into a container for disposal. Do not drop material. Do not knock materials alternately or against hard solids.
Storage temperature : -40~85°C

## 8. Exposure Controls, Personal Protection

Engineering Measures : Not Applicable
Personal Protection Equipment : Unnecessary
Respiration : Unnecessary
Hand : Unnecessary
Eye : Unnecessary
Skin & Body : Unnecessary
Hygiene Measures : Not Applicable

## 9. Physical and Chemical Properties

State of Substance : Solid	Color : Black+Silver+Gold
pH Value : Not applicable	Odor : None
Self-Igniting Temperature : Not applicable	Explosion Limits : Not applicable
Vapor Pressure : Not applicable	Vapor Density : Not applicable
Density : Not applicable	Dissolution : Not applicable

## 10. Stability and Reactivity

Stability : Stability
Possible Hazard Reaction Under Special Conditions : None
Conditions to Avoid : Reaction with acid generates hydrogen gases.
Materials to Avoid : Reaction with acid generates hydrogen gases.
Hazardous Decomposition Products : None

## 11. Toxicological Information

Acute Toxicity : None
Local Reactions : None
Sensitivity : None

Chronic or Long Term Toxicity : None

Special Reactions : None

## 12. Ecological information

Possible Environmental Impact/Environmental Run-offs : No special attention needed.

## 13. Disposal considerations

Disposal Methods : Waste material can be disposed to bury according to Federal, State and Local Regulations.

## 14. Transport information

International Transportation Regulations : —

UN Reference No. : —

Domestic Transportation Regulations : —

Special Transportation Methods and Precautions : —

## 15. Regulatory information

Applicable Regulation : RoHS

## 16. Other information

Ref. Document	MSDS of suppliers	
Department	Dept. Name : QA	
	Address/Tel. : No 39, Hwa Dong Roa Ta Fa Ind. District, Kaohsiung County, R.O.C. / 886-7-7871555	
Made By	Title : Technician	Name : Ben Lin
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