BQ331 MICROMAX™ 导体浆料

Version	Revision Date:	SDS Number:	Date of last issue: 2024/04/12
8.1	2025/07/30	300000000395	Date of first issue: 2024/01/29

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : BQ331 MICROMAX™ 导体浆料
Product code : 000000000027046576

Manufacturer or supplier's details

Company : Celanese (Shanghai) International Trading Co., Ltd

Address : 4560 Jinke Road, Zhangjiang, Pudong
Shanghai, China 201210

Telephone : 86-21-38619288

Emergency telephone number : CHEMTREC International phone number: +1-703-527 3887,
+86 532 8388-9090 (China, 24h)

E-mail address : HazCom@celanese.com

Recommended use of the chemical and restrictions on use

Recommended use : For industrial use only.
Paste for electronic industry

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance : viscous liquid
Colour : gold
Odour : Slight odour

Not a hazardous substance or mixture.

GHS Classification

Not a hazardous substance or mixture.

GHS label elements

No hazard pictogram, no signal word, no hazard statement(s), no precautionary statement(s) required.

Physical and chemical hazards

Not classified based on available information.

Health hazards

Not classified based on available information.

Environmental hazards

Not classified based on available information.

Other hazards which do not result in classification

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
Gold	7440-57-5	>= 80 -< 90
(2-Methoxymethylethoxy)propanol	34590-94-8	>= 1 -< 10
2-(2-Ethoxyethoxy)ethyl acetate	112-15-2	>= 1 -< 10

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

If inhaled : If inhaled, remove to fresh air.
If breathing is difficult, give oxygen.
If not breathing, give artificial respiration.
Get medical attention.

In case of skin contact : Wash off with soap and water.
Get medical attention if irritation develops and persists.
Wash contaminated clothing before re-use.

In case of eye contact : Immediately flush eyes for at least 15 minutes. Get medical attention.

If swallowed : If swallowed
Rinse mouth with water.
Call a physician or poison control centre immediately.
DO NOT induce vomiting unless directed to do so by a physician or poison control center.

Most important symptoms and effects, both acute and delayed : None known.

5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Dry sand
Dry chemical
Alcohol-resistant foam

Specific hazards during firefighting : Hazardous decomposition products formed under fire conditions.
(see also section 10)
Avoid breathing decomposition products.

Specific extinguishing methods : Evacuate personnel to safe areas.
Stop spill/release if it can be done with minimal risk.
Do not allow run-off from fire fighting to enter drains or water courses.

Special protective equipment : Exposure to decomposition products may be a hazard to

for firefighters	health. Wear self-contained breathing apparatus for firefighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Wear suitable protective equipment.
Environmental precautions	:	Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Clean contaminated floors and objects thoroughly while observing environmental regulations.
Methods and materials for containment and cleaning up	:	Contain spill. Soak up with inert absorbent material. Collect and contain contaminated absorbent and dike material for disposal. Keep in suitable, closed containers for disposal. Ventilate the area. Clean contaminated surface thoroughly.
Prevention of secondary hazards	:	Dispose of in accordance with local regulations.

7. HANDLING AND STORAGE

Handling

Advice on protection against fire and explosion	:	Avoid formation of dust and aerosols. Keep away from heat and sources of ignition.
Advice on safe handling	:	Avoid inhalation, ingestion and contact with skin and eyes. Use only with adequate ventilation/personal protection. Keep container closed when not in use. Take care to avoid waste and spillage when weighing, loading and mixing the product.
Avoidance of contact	:	Acids

Storage

Conditions for safe storage	:	Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from sources of ignition - No smoking. Do not store or consume food, drink or tobacco in areas where they may become contaminated with this material. Keep container closed when not in use. Do not reuse empty container.
Further information on storage stability	:	Stable under normal conditions.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
(2-Methoxymethyleth-oxy)propanol	34590-94-8	PC-TWA	600 mg/m3	CN OEL
	Further information: Skin			
		PC-STEL	900 mg/m3	CN OEL
	Further information: Skin			
		TWA	50 ppm	ACGIH

Engineering measures : Local exhaust or a laboratory hood should be used when handling the materials.
Maintain air concentrations below occupational exposure standards.

Personal protective equipment

Respiratory protection : Provide adequate ventilation.
No personal respiratory protective equipment normally required.
Where there is potential for airborne exposures in excess of applicable limits, wear approved respiratory protection with dust/mist cartridge.
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Consult the respirator manufacturer to determine the appropriate type of equipment for a given application. Observe respirator use limitations specified by the manufacturer.
Persons performing maintenance or repairs on exhaust system equipment (e.g. ducts) may need to use respirators and protective clothing to prevent exposure to any accumulated residues.

Eye/face protection : Wear safety glasses with side shields.

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.
Lightweight protective clothing
Safety shoes

Hand protection
Material : Impervious gloves

Remarks : Gloves must be inspected prior to use. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. The exact break through time can be obtained from the protective glove producer and this has to be observed.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the

gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.
Avoid contact with skin, eyes and clothing.
Contaminated work clothing should not be allowed out of the workplace.
Remove contaminated clothing and protective equipment before entering eating areas.
Remove and wash contaminated clothing before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	viscous liquid
Colour	:	gold
Odour	:	Slight odour
Flash point	:	95 °C Method: closed cup
Density	:	6.04 g/cm³ (20 °C)
Solubility(ies)		
Water solubility	:	slightly soluble (20 °C)
Viscosity		
Viscosity, dynamic	:	> 100 Pa.s (25 °C)
Viscosity, kinematic	:	> 20.5 mm2/s (40 °C) estimated

10. STABILITY AND REACTIVITY

Possibility of hazardous reactions	:	Polymerization will not occur. Stable at normal temperatures and storage conditions.
Conditions to avoid	:	None reasonably foreseeable.
Incompatible materials	:	Acids
Hazardous decomposition products	:	No decomposition if stored and applied as directed. Under fire conditions: Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke). Metal oxides

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified due to lack of data.

Components:

(2-Methoxymethylethoxy)propanol:

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg Method: OECD Test Guideline 401 Assessment: The substance or mixture has no acute oral toxicity
Acute inhalation toxicity	:	Assessment: The substance or mixture has no acute inhalation toxicity Remarks: An LC50/inhalation/4h/rat could not be determined because no mortality of rats was observed at the maximum achievable concentration.
Acute dermal toxicity	:	LD50 (Rabbit): 9,510 mg/kg Method: OECD Test Guideline 402 Assessment: The substance or mixture has no acute dermal toxicity Remarks: Skin effects

2-(2-Ethoxyethoxy)ethyl acetate:

Acute oral toxicity	:	LD50 (Rat): 11,000 mg/kg Assessment: The substance or mixture has no acute oral toxicity
Acute inhalation toxicity	:	Assessment: The substance or mixture has no acute inhalation toxicity Remarks: An LC50/inhalation/4h/rat could not be determined because no mortality of rats was observed at the maximum achievable concentration.
Acute dermal toxicity	:	LD50 (Rabbit): 15,300 mg/kg Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Not classified due to lack of data.

Components:

(2-Methoxymethylethoxy)propanol:

Species	:	Rabbit
Assessment	:	No skin irritation
Method	:	OECD Test Guideline 404
Result	:	No skin irritation

2-(2-Ethoxyethoxy)ethyl acetate:

Species	:	Rabbit
Assessment	:	No skin irritation
Method	:	OECD Test Guideline 404
Result	:	No skin irritation
Remarks	:	Minimal effects that do not meet the threshold for classification.

Serious eye damage/eye irritation

Not classified due to lack of data.

Components:

(2-Methoxymethylethoxy)propanol:

Species	:	Human
Result	:	Slight or no eye irritation
Assessment	:	No eye irritation
Remarks	:	Minimal effects that do not meet the threshold for classification.

2-(2-Ethoxyethoxy)ethyl acetate:

Species	:	Rabbit
Result	:	Irritation to eyes, reversing within 7 days
Assessment	:	Mild eye irritation

Respiratory or skin sensitisation

Skin sensitisation

Not classified due to lack of data.

Respiratory sensitisation

Not classified due to lack of data.

Components:

(2-Methoxymethylethoxy)propanol:

Species	:	Human
Assessment	:	Does not cause skin sensitisation.
Result	:	Does not cause skin sensitisation.

2-(2-Ethoxyethoxy)ethyl acetate:

Species	:	Guinea pig
Assessment	:	Does not cause skin sensitisation.
Method	:	OECD Test Guideline 406
Result	:	Does not cause skin sensitisation.

Germ cell mutagenicity

Not classified due to lack of data.

Components:

(2-Methoxymethylethoxy)propanol:

Germ cell mutagenicity -	:	Tests on bacterial or mammalian cell cultures did not show

Assessment		mutagenic effects., Animal testing did not show any mutagenic effects.

2-(2-Ethoxyethoxy)ethyl acetate:

Germ cell mutagenicity - Assessment	:	Animal testing did not show any mutagenic effects., Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Carcinogenicity

Not classified due to lack of data.

Components:

(2-Methoxymethylethoxy)propanol:

Carcinogenicity - Assessment	:	Animal testing did not show any carcinogenic effects., Information given is based on data obtained from similar substances.

Reproductive toxicity

Not classified due to lack of data.

Components:

(2-Methoxymethylethoxy)propanol:

Reproductive toxicity - Assessment	:	No toxicity to reproduction, Animal testing showed no reproductive toxicity., No effects on or via lactation, Information given is based on data obtained from similar substances. Animal testing showed no developmental toxicity.

2-(2-Ethoxyethoxy)ethyl acetate:

Reproductive toxicity - Assessment	:	No toxicity to reproduction, Animal testing showed no reproductive toxicity., No effects on or via lactation, Information given is based on data obtained from similar substances. Animal testing showed no developmental toxicity., Information given is based on data obtained from similar substances.

STOT - single exposure

Not classified due to lack of data.

Components:

(2-Methoxymethylethoxy)propanol:

Assessment	:	The substance or mixture is not classified as specific target organ toxicant, single exposure.

2-(2-Ethoxyethoxy)ethyl acetate:

Assessment	:	The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure

Not classified due to lack of data.

Components:

(2-Methoxymethylethoxy)propanol:

Assessment	:	The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

2-(2-Ethoxyethoxy)ethyl acetate:

Assessment	:	The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Components:

(2-Methoxymethylethoxy)propanol:

Species	:	Rat
NOAEL	:	1,000 mg/kg
Application Route	:	Ingestion
Exposure time	:	28 d
Remarks	:	No toxicologically significant effects were found.

Species	:	Rat
Application Route	:	Inhalation
Test atmosphere	:	vapour
Exposure time	:	90 d
Method	:	OECD Test Guideline 413
Remarks	:	No toxicologically significant effects were found.

Species	:	Rabbit
NOAEL	:	2,850 mg/kg
Application Route	:	Skin contact
Exposure time	:	90 d
Method	:	OECD Test Guideline 411
Remarks	:	No toxicologically significant effects were found.

2-(2-Ethoxyethoxy)ethyl acetate:

Species	:	Rat
NOAEL	:	250 mg/kg
Application Route	:	Ingestion
Exposure time	:	90 d
Method	:	OECD Test Guideline 408
Remarks	:	No toxicologically significant effects were found. Information given is based on data obtained from similar sub-stances.

Species	:	Rat
Application Route	:	Inhalation
Test atmosphere	:	dust/mist
Exposure time	:	28 d

Remarks : No toxicologically significant effects were found.
Information given is based on data obtained from similar substances.

Aspiration toxicity

Not classified due to lack of data.

Components:

(2-Methoxymethylethoxy)propanol:

No aspiration toxicity classification

2-(2-Ethoxyethoxy)ethyl acetate:

No aspiration toxicity classification

12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

(2-Methoxymethylethoxy)propanol:

Toxicity to fish : LC50 (Poecilia reticulata (guppy)): > 1,000 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: Aquatic toxicity is unlikely due to low solubility.

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): > 969 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 969 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 201

Ecotoxicology Assessment

Acute aquatic toxicity : This product has no known ecotoxicological effects.

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

2-(2-Ethoxyethoxy)ethyl acetate:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 100 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates	:	LC50 (Daphnia magna (Water flea)): 143 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	EC50 (algae): 110.2 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 NOEC (Pseudokirchneriella subcapitata (green algae)): 300 mg/l Exposure time: 72 h Method: ISO 8692 Remarks: Information given is based on data obtained from similar substances.
Toxicity to fish (Chronic toxicity)	:	NOEC (Fish (unspecified species)): 28.64 mg/l Exposure time: 28 d
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 102 mg/l Exposure time: 21 d

Ecotoxicology Assessment

Acute aquatic toxicity	:	This product has no known ecotoxicological effects.
Chronic aquatic toxicity	:	This product has no known ecotoxicological effects.

Persistence and degradability

Components:

(2-Methoxymethylethoxy)propanol:

Biodegradability	:	Result: Biodegradable Method: OECD Test Guideline 301 Remarks: Readily biodegradable.

2-(2-Ethoxyethoxy)ethyl acetate:

Biodegradability	:	Result: Biodegradable

Bioaccumulative potential

Components:

(2-Methoxymethylethoxy)propanol:

Partition coefficient: n-octanol/water	:	log Pow: 0.004 (25 °C) pH: 7.5 - 7.7

2-(2-Ethoxyethoxy)ethyl acetate:

Bioaccumulation	:	Remarks: Bioaccumulation is unlikely.
Partition coefficient: n-octanol/water	:	log Pow: 0.74 (40 °C) pH: 8.3

Mobility in soil

No data available

Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	If recycling is not practicable, dispose of in compliance with local regulations. Do not reuse empty container.Never place unused product down any indoor or out door drain. Contaminated/not cleaned containers should be treated/handled like product waste.Dispose of container properly.Refer to applicable Local, State/Provincial, and Federal Regulations, as well as industry Standards.

14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number	:	Not applicable
Proper shipping name	:	Not applicable
Class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable
Environmentally hazardous	:	no

IATA-DGR

UN/ID No.	:	Not applicable
Proper shipping name	:	Not applicable
Class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable
Packing instruction (cargo aircraft)	:	Not applicable
Packing instruction (passenger aircraft)	:	Not applicable

IMDG-Code

UN number	:	Not applicable
Proper shipping name	:	Not applicable
Class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable
EmS Code	:	Not applicable
Marine pollutant	:	no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

GB 6944/12268

UN number	:	Not applicable
Proper shipping name	:	Not applicable
Class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable
Marine pollutant	:	no

JT/T 617

UN number	:	Not applicable
Proper shipping name	:	Not applicable
Class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable
Environmentally hazardous		no

Special precautions for user

Not applicable

15. REGULATORY INFORMATION

National regulatory information

Regulations on Safety Management of Hazardous Chemicals

Catalogue of Hazardous Chemicals	:	This product is not listed in the catalogue of hazardous chemicals and it does not meet the definition of hazardous chemicals and its principles of determination.
Identification of Major Hazard Installations for Hazardous Chemicals (GB 18218)	:	Not listed
Hazardous Chemicals for Priority Management under SAWS	:	Not listed
Catalogue of Specially Controlled Hazardous Chemicals	:	Not listed
List of Explosive Precursors	:	Not listed

Regulations on Labour Protection in Workplaces where Toxic Substances are Used

Catalogue of Highly Toxic Chemicals	:	Not listed

Regulation of Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals

China Severely Restricted Toxic Chemicals for Import and Export : Not listed

Regulation on the Administration of Precursor Chemicals

Catalogue and Classification of Precursor Chemicals : Not listed

Regulations on the Administration of Controlled Chemicals

List of Controlled Chemicals : Not listed

Regulations of Ozone Depleting Substances Management

List of Controlled Ozone Depleting Substances : Not listed

List of Controlled Ozone Depleting Substances Import and Export : Not listed

Environmental Protection Law

List of Priority Controlled Chemicals : Not listed

List of Key Controlled New Pollutants : Not listed

16. OTHER INFORMATION

Revision Date : 2025/07/30
Date format : yyyy/mm/dd

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
CN OEL : Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents.

ACGIH / TWA : 8-hour, time-weighted average
CN OEL / PC-TWA : Permissible concentration - time weighted average
CN OEL / PC-STEL : Permissible concentration - short term exposure limit

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International

Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

CN / EN