SAFETY DATA SHEET

Coomassie Blue G-250

Date of issue: 2018-06-27 **Revision date: Not applicable** **Version: R0001.0001**

1. IDENTIFICATION

A. Product name

- Coomassie Blue G-250 [IBS-BC005]

B. Recommended use and restriction on use

- General use : Not available
- Restriction on use : Not available

C. Manufacturer / Supplier / Distributor information

○ **Manufacturer information**

- Company name :
- Address :
- Dept. :
- Telephone number :
- Emergency telephone number :
- Fax number :
- E-mail address :

○ **Supplier/Distributer information**

- Company name :
- Address :
- Dept. :
- Telephone number :
- Emergency telephone number :
- Fax number :
- E-mail address :

2. HAZARD IDENTIFICATION

A. GHS Classification

- Corrosive to metals : Category1
- Skin corrosion/irritation : Category1A
- Serious eye damage/irritation : Category1
- Respiratory sensitization : Category1
- Reproductive toxicity : Category1B
- Specific target organ toxicity(Single exposure) : Category1

B. GHS label elements

○ **Hazard symbols**


○ **Signal words**

- Danger

○ **Hazard statements**

- H290 May be corrosive to metals
- H314 Causes severe skin burns and eye damage
- H318 Causes serious eye damage
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
- H360 May damage fertility or the unborn child
- H370 Causes damage to organs(Refer Section SDS 11)

○ **Precautionary statements**

1) Prevention

- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P234 Keep only in original container.
- P260 Do not breathe dust/fume.
- P261 Avoid breathing dust/fume.
- P264 Wash hands thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P285 In case of inadequate ventilation wear respiratory protection.

2) Response

- P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P304+P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P307+P311 If exposed: Call a POISON CENTER or doctor/physician.
- P308+P313 If exposed or concerned: Get medical advice/attention.
- P310 Immediately call a POISON CENTER or doctor/physician.
- P321 Specific treatment
- P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
- P363 Wash contaminated clothing before reuse.
- P390 Absorb spillage to prevent material damage.

3) Storage

- P405 Store locked up.
- P406 Store in corrosive resistant/... container with a resistant inner liner.

4) Disposal

- P501 Dispose of contents/container in accordance with local/regional/national/international regulation

C. Other hazards which do not result in classification : (NFPA Classification)

○ **NFPA grade (0 ~ 4 level)**

- Health : 3, Flammability : 0, Reactivity : 0

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Trade names and Synonyms	CAS No.	Content(%)
Methanol	-	67-56-1	50
Acetic acid	-	64-19-7	10
hydrogen [4-[4-(p-ethoxyanilino)-4'-[ethyl(m-sulphonatobenzyl)amino]-2'-methylbenzhydrylene]-3-methylcyclohexa-2,5-dien-1-ylidene](ethyl)(m-sulphonatobenzyl)ammonium, monosodium salt (C.I. acid blue 090)	-	6104-58-1	0.03

4. FIRST AID MEASURES

A. Eye contact

- Do not rub your eyes.
- Immediately flush eyes with plenty of water for at least 15 minutes and call a doctor/physician.
- Get medical attention immediately.
- Remove contact lenses if worn.

B. Skin contact

- Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
- Laundering enough contaminated clothing before reuse.
- Get medical attention immediately.
- Prevent the spread of the skin.
- Remove contaminated clothing, shoes and isolate.
- Wash thoroughly after handling.
- Wear gloves when washing the patient, and please avoid contact with contaminated clothing.

C. Inhalation contact

- When exposed to large amounts of steam and mist, move to fresh air.
- Take specific treatment if needed.
- Get medical attention immediately.
- Go to the hospital immediately if symptoms(flare, irritate) occur.
- If breathing is stopped or irregular, give artificial respiration and supply oxygen.

D. Ingestion contact

- Please be advised by doctor whether induction of vomit is demanded or not.
- Rinse your mouth with water immediately.
- Get medical attention immediately.

E. Delayed and immediate effects and also chronic effects from short and long term exposure

- Not available

F. Notes to physician

- Notify medical personnel of contaminated situations and have them take appropriate protective measures.
- If exposed or concerned, get medical attention/advice.
- Remove to fresh air and keep at rest in a position comfortable for breathing.

5. FIREFIGHTING MEASURES

A. Suitable (Unsuitable) extinguishing media

- Dry chemical, carbon dioxide, regular foam extinguishing agent, spray
- Avoid use of water jet for extinguishing

B. Specific hazards arising from the chemical

- Not available

C. Special protective actions for firefighters

- Cool containers with water until well after fire is out.
- Avoid inhalation of materials or combustion by-products.
- Use appropriate extinguishing measure suitable for surrounding fire.
- Wear appropriate protective equipment.
- Keep containers cool with water spray.
- Fine powder may cause ignition.

6. ACCIDENTAL RELEASE MEASURES

A. Personal precautions, protective equipment and emergency procedures

- Ventilate closed spaces before entering.
- Must work against the wind, let the upwind people to evacuate.
- Move container to safe area from the leak area.

- Remove all sources of ignition.
- Avoid dust formation.
- Moist with water to prevent dust scattering.
- Avoid skin contact and inhalation.
- Keep unauthorized people away,isolate hazard area and deny entry.

B. Environmental precautions

- Prevent runoff and contact with waterways, drains or sewers.
- If large amounts have been spilled, inform the relevant authorities.

C. Methods and materials for containment and cleaning up

- Large spill : Stay upwind and keep out of low areas. Dike for later disposal.
- Notification to central government, local government. When emissions at least of the standard amount
- Dispose of waste in accordance with local regulation.
- Appropriate container for disposal of spilled material collected.
- Dust spills : Cover dust spills with plastic sheet or waterproof cloth to minimize spreading and avoid contact with water.
- Small liquid state spills: Appropriate container for disposal of spilled material collected.
- For disposal of spilled material in appropriate containers collected and clear surface.
- Spilled material should be treated as a potential risk of waste collected.

7. HANDLING AND STORAGE

A. Precautions for safe handling

- Wash thoroughly after handling.
- Comply with all applicable laws and regulations for handling
- Get the manual before use.
- Dealing only with a well-ventilated place.
- Minimize occurrence of dust and accumulation.`
- Avoid contact with strong oxidizing agent.
- Contaminated work clothing should not be allowed out of the workplace.

B. Conditions for safe storage, including any incompatibilities

- Save applicable laws and regulations.
- Keep in the original container.
- Keep sealed when not in use.
- Prevent static electricity and keep away from combustible materials or heat sources.
- Collected them in sealed containers.
- Do not store in metal containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

A. Exposure limits

○ **ACGIH TLV**

- [Methanol] : TWA, 200 ppm (262 mg/m3) STEL, 250 ppm (328 mg/m3) Skin
- [Acetic acid] : TWA 10 ppm (25 mg/m3) STEL, 15 ppm (37 mg/m3)

○ **OSHA PEL**

- [Methanol]:200ppm 260mg/m3
- [Acetic acid]:10ppm 25mg/m3
- [hydrogen [4-[4-(p-ethoxyanilino)-4'-[ethyl(m-sulphonatobenzyl)amino]-2'-methylbenzhydrylene]-3-methylcyclohexa-2,5-dien-1-ylidene](ethyl)(m-sulphonatobenzyl)ammonium, monosodium salt (C.I. acid blue 090)]: 0.5mg/m3

B. Engineering controls

- A system of local and/or general exhaust is recommended to keep employee exposures above the Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. The use of local exhaust ventilation is recommended to control emissions near the source.

C. Individual protection measures, such as personal protective equipment

○ **Respiratory protection**

- Under conditions of frequent use or heavy exposure, Respiratory protection may be needed.
- Respiratory protection is ranked in order from minimum to maximum.
- Consider warning properties before use.
- Dust, mist, fume-purifying respiratory protection
- Any air-purifying respirator with a corpuscle filter of high efficiency
- Any respiratory protection with a electromotion fan(for dust, mist, fume-purifying)
- Self-contained breathing apparatus with a corpuscle filter of high efficiency
- For Unknown Concentration or Immediately Dangerous to Life or Health : Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply. Any self-contained breathing apparatus with a full facepiece.

○ **Eye protection**

- Wear primary eye protection such as splash resistant safety goggles with a secondary protection face shield.
- Provide an emergency eye wash station and quick drench shower in the immediate work area.

○ **Hand protection**

- Wear appropriate chemical resistant glove.

○ **Skin protection**

- Wear appropriate chemical resistant protective clothing.

○ **Others**

- Not available

9. PHYSICAL AND CHEMICAL PROPERTIES

Acetic acid

A. Appearance	
- Appearance	liquid
- Color	Not available
B. Odor	Not available
C. Odor threshold	Not available
D. pH	2.4
E. Melting point/Freezing point	17 ℃
F. Initial Boiling Point/Boiling Ranges	118 ℃
G. Flash point	39 ℃ (c.c.)
H. Evaporation rate	0.97
I. Flammability(solid, gas)	Not available
J. Upper/Lower Flammability or explosive limits	17 / 6.0 %
K. Vapour pressure	1.5 ㎪ (20℃)
L. Solubility	100 g/100㎖
M. Vapour density	2.07
N. Specific gravity(Relative density)	1.0492
O. Partition coefficient of n-octanol/water	-0.17
P. Autoignition temperature	485 ℃
Q. Decomposition temperature	Not available
R. Viscosity	1.22 cP (20℃)
S. Molecular weight	60.05

Methanol

A. Appearance	
- Appearance	liquid
- Color	Not available
B. Odor	Not available
C. Odor threshold	100 ppm
D. pH	Not available
E. Melting point/Freezing point	-98 ℃
F. Initial Boiling Point/Boiling Ranges	65 ℃
G. Flash point	12 ℃
H. Evaporation rate	Not available
I. Flammability(solid, gas)	Not available
J. Upper/Lower Flammability or explosive limits	44 / 5.5 %
K. Vapour pressure	127 ㎜Hg (25℃)

L. Solubility	100 g/100㎖ (20℃)
M. Vapour density	1.1
N. Specific gravity(Relative density)	0.79
O. Partition coefficient of n-octanol/water	-0.77
P. Autoignition temperature	464 ℃
Q. Decomposition temperature	Not available
R. Viscosity	0.614 cP
S. Molecular weight	32.04

10. STABILITY AND REACTIVITY

A. Chemical Stability

- Stable under normal conditions of use and storage.

B. Possibility of hazardous reactions

- May be corrosive to metals.

C. Conditions to avoid

- Avoid contact with incompatible materials and condition.
- Avoid : Accumulation of electrostatic charges, Heating, Flames and hot surfaces
- Avoid contact with metals.

D. Incompatible materials

- Avoid contact with strong oxidizing agent and strong reducing agent.

E. Hazardous decomposition products

- May emit flammable vapour if involved in fire.

11. TOXICOLOGICAL INFORMATION

A. Information on the likely routes of exposure

○ **(Respiratory tracts)**

- May cause allergy or asthma symptoms or breathing difficulties if inhaled

○ **(Oral)**

- Not available

○ **(Eye·Skin)**

- Causes serious eye damage
- Causes severe skin burns and eye damage

B. Delayed and immediate effects and also chronic effects from short and long term exposure

○ **Acute toxicity**

*** Oral**

- Product (ATEmix) : 2000mg/kg < ATEmix <= 5000mg/kg
- [Methanol] : LD50 6200 ㎎/㎏ Rat (EHC)
- [Acetic acid] : LD50 = 3310 ㎎/㎏ Rat (NITE)

*** Dermal**

- Product (ATEmix) : 300mg/kg < ATEmix <= 2000mg/kg
- [Methanol] : LD50 15800 ㎎/㎏ rabbit (NLM: ChemIDPlus)
- [Acetic acid] : LD50 = 1060 ㎎/㎏ rabbit (NITE)

*** Inhalation**

- Product (ATEmix) : Not available
- [Methanol] : LC50 83.9 mg/L/4 hr Rat (NLM: ChemIDPlus)
- [Acetic acid] : LC50 = 39.3 mg/L/4 hr Rat (NLM)

○ **Skin corrosion/irritation**

- Causes severe skin burns and eye damage

○ **Serious eye damage/irritation**

- Causes serious eye damage

○ **Respiratory sensitization**

- May cause allergy or asthma symptoms or breathing difficulties if inhaled

○ **Skin sensitization**

- Not available

○ **Carcinogenicity**

*** IARC**

- Not available

*** OSHA**

- Not available

*** ACGIH**

- Not available

*** NTP**

- Not available

*** EU CLP**

- Not available

○ **Germ cell mutagenicity**

- Not available

○ **Reproductive toxicity**

- May damage fertility or the unborn child

○ **STOT-single exposure**

- Causes damage to organs

○ **STOT-repeated exposure**

- Not available

○ **Aspiration hazard**

- Not available

12. ECOLOGICAL INFORMATION

A. Ecotoxicity

○ **Fish**

- [Methanol] : LC50 15400 ㎎/ℓ 96 hr Bluegill (NITE: EHC 196, 1998)

- [Acetic acid] : ECHA LC50 >1000 ㎎/ℓ 96 hr Oncorhynchus mykiss(OECD TG 203, GLP)

○ **Crustaceans**

- [Methanol] : LC50 1340 mg/L Brown shrimp (NITE: EHC 196, 1998)
- [Acetic acid] : ECHA EC50 >300.82 ㎎/ℓ 48 hr Daphnia magna(OECD TG 202, GLP)

○ **Algae**

- [Methanol] : ECHA EC50 22000 ㎎/ℓ 96 hr Selenastrum capricornutum(OECD TG 201)
- [Acetic acid] : ECHA EC50 >1000 ㎎/ℓ 72 hr Skeletonema costatum(ISO 10253, GLP)

B. Persistence and degradability

○ **Persistence**

- [Methanol] : log Kow -0.77
- [Acetic acid] : log Kow -0.17 (Howard, 1997)
- [hydrogen [4-[4-(p-ethoxyanilino)-4'-[ethyl(m-sulphonatobenzyl)amino]-2'-methylbenzhydrylene]-3-methylcyclohexa-2,5-dien-1-ylidene](ethyl)(m-sulphonatobenzyl)ammonium, monosodium salt (C.I. acid blue 090)] : log Kow -0.24 (Estimate)

○ **Degradability**

- Not available

C. Bioaccumulative potential

○ **Bioaccumulative potential**

- Not available

○ **Biodegration**

- [Acetic acid] : 96% 20 day(ECHA), Biodegradability = 74 (%) (NITE)

D. Mobility in soil

- [Acetic acid] : 1.153 Koc (TGD guideline, QSAR)(ECHA)

E. Other adverse effects

- Not available

13. DISPOSAL CONSIDERATIONS

A. Disposal methods

- Since more than two kinds of designaed waste is mixed, it is difficult to treat seperatly, then can be reduction or stabilization by incineration or similar process.
- If water separation is possible, pre-process with Water separation process.
- Dispose by incineration.

B. Special precautions for disposal

- The user of this product must disposal by oneself or entrust to waste disposer or person who other’s waste recycle and dispose, person who establish and operate waste disposal facilities.
- Dispose of waste in accordance with all applicable laws and regulations.

14. TRANSPORT INFORMATION

A. UN No. (IMDG CODE/IATA DGR)

- 1759

B. Proper shipping name

- CORROSIVE SOLIDS, N.O.S.

C. Hazard Class

- 8

D. IMDG CODE/IATA DGR Packing group

- Ⅰ

E. Marine pollutant

- Not applicable

F. Special precautions for user related to transport or transportation measures

- Local transport follows in accordance with Dangerous goods Safety Management Law.
- Package and transport follow in accordance with Department of Transportation (DOT) and other regulatory agency requirements.
- EmS FIRE SCHEDULE : F-A (General fire schedule)
- EmS SPILLAGE SCHEDULE : S-B (Corrosive substances)

15. REGULATORY INFORMATION

A. National and/or international regulatory information

○ **POPs Management Law**

- Not applicable

○ **Information of EU Classification**

*** Classification**

- [Methanol] : H225, H331, H311, H301, H370
- [Acetic acid] : H226, H314

○ **U.S. Federal regulations**

*** OSHA PROCESS SAFETY (29CFR1910.119)**

- Not applicable

*** CERCLA Section 103 (40CFR302.4)**

- [Methanol] : 2267.995 kg 5000 lb
- [Acetic acid] : 2267.995 kg 5000 lb

*** EPCRA Section 302 (40CFR355.30)**

- Not applicable

*** EPCRA Section 304 (40CFR355.40)**

- Not applicable

*** EPCRA Section 313 (40CFR372.65)**

- [Methanol] : Applicable

○ **Rotterdam Convention listed ingredients**

- Not applicable

○ **Stockholm Convention listed ingredients**

- Not applicable

○ **Montreal Protocol listed ingredients**

- Not applicable

16. OTHER INFORMATION

A. Reference

- The information contained herein is believed to be accurate. It is provided independently of any sale of the product for purpose of hazard communication. It is not intended to constitute performance information concerning the product. No express warranty, or implied warranty of merchantability or fitness for a particular purpose is made with respect to the product or the information contained herein.
- This Safety Data Sheet was compiled with data and information from the following sources: KOSHA, NITE, ESIS, NLM, SIDS, IPCS

B. Issue date

- 2018-06-27

C. Revision number and Last date revised

- Not applicable

D. Other

- This SDS is prepared according to the Globally Harmonized System (GHS).