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## [MATERIAL SAFETY DATA SHEET (MSDS)]

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### SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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SUPPLIER'S NAME : FIRST COLOR CO., LTD  
1236-1, JUNGWANG-DONG,  
SHIHUNG, KYOUNGGI-DO,  
KOREA.

TEL : 82-31-432-6977  
FAX : 82-31-432-6329

TRADE NAMES/SYNONYMS : FIRST RED 4812

C.I. PIGMENT RED 48:1; C.I. PIGMENT RED 48:1

CHEMICAL FAMILY: azo

CREATION DATE: Feb 28 1990

REVISION DATE: Mar 07 2002

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### SECTION 2 COMPOSITION, INFORMATION ON INGREDIENTS

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COMPONENT: C.I. PIGMENT RED 48:1, BARIUM SALT

CAS NUMBER: 7585-41-3

EC NUMBER (EINECS): 231-494-8

PERCENTAGE: >96.0

COMPONENT: WATER

CAS NUMBER: 7732-18-5

EC NUMBER (EINECS): 231-791-2

PERCENTAGE: <4.0

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SECTION 3      HAZARDS IDENTIFICATION

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NFPA RATINGS (SCALE 0-4):    HEALTH=1    FIRE=1    REACTIVITY=0

EC CLASSIFICATION (CALCULATED): No classification assigned.

EMERGENCY OVERVIEW:

PHYSICAL FORM: powder

MAJOR HEALTH HAZARDS: No significant target effects reported.

PHYSICAL HAZARDS: Dust/air mixtures may ignite or explode.

POTENTIAL HEALTH EFFECTS:

INHALATION:

SHORT TERM EXPOSURE: same as effects reported in other routes of exposure, irritation, difficulty breathing

LONG TERM EXPOSURE: no information on significant adverse effects

SKIN CONTACT:

SHORT TERM EXPOSURE: irritation, nausea, vomiting, diarrhea, stomach pain

LONG TERM EXPOSURE: no information on significant adverse effects

EYE CONTACT:

SHORT TERM EXPOSURE: irritation

LONG TERM EXPOSURE: no information on significant adverse effects

INGESTION:

SHORT TERM EXPOSURE: metallic taste, ringing in the ears, nausea, vomiting, diarrhea, stomach pain, difficulty breathing, drowsiness, dizziness, blurred vision, bluish skin color, kidney damage, paralysis

LONG TERM EXPOSURE: no information on significant adverse effects

CARCINOGEN STATUS:

OSHA: N

NTP: N

IARC: N

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SECTION 4      FIRST AID MEASURES

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INHALATION: Remove from exposure immediately. Use a bag valve mask or similar device to perform artificial respiration (rescue breathing) if needed. Get

medical attention.

**SKIN CONTACT:** Remove contaminated clothing, jewelry, and shoes immediately.

Wash with soap or mild detergent and large amounts of water until no evidence of chemical remains (at least 15-20 minutes). Get medical attention, if needed.

**EYE CONTACT:** Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains. Get medical attention immediately.

**INGESTION:** If vomiting occurs, keep head lower than hips to help prevent aspiration. Get medical attention, if needed.

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## SECTION 5 FIRE FIGHTING MEASURES

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**FIRE AND EXPLOSION HAZARDS:** Slight fire hazard. Dust/air mixtures may ignite or explode.

**EXTINGUISHING MEDIA:** regular dry chemical, carbon dioxide, water, regular foam

Large fires: Use regular foam or flood with fine water spray.

**FIRE FIGHTING:** Move container from fire area if it can be done without risk.

Do not scatter spilled material with high-pressure water streams. Dike for later disposal. Use extinguishing agents appropriate for surrounding fire. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

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## SECTION 6 ACCIDENTAL RELEASE MEASURES

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**OCCUPATIONAL RELEASE:**

Collect spilled material in appropriate container for disposal. Keep out of water supplies and sewers. Keep unnecessary people away, isolate hazard area and deny entry.

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## SECTION 7      HANDLING AND STORAGE

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Store and handle in accordance with all current regulations and standards.  
Keep separated from incompatible substances.

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## SECTION 8      EXPOSURE CONTROLS, PERSONAL PROTECTION

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### EXPOSURE LIMITS:

#### C.I. PIGMENT RED 48, BARIUM SALT:

##### BARIUM, SOLUBLE COMPOUNDS (as Ba):

- 0.5 mg/m<sup>3</sup> OSHA TWA
- 0.5 mg/m<sup>3</sup> ACGIH TWA
- 0.5 mg/m<sup>3</sup> NIOSH recommended TWA 10 hour(s)
- 0.5 mg/m<sup>3</sup> DFG MAK 4 times/shift (total dust)
- 0.5 mg/m<sup>3</sup> EC MAK 4 times/shift (total dust)
- 0.5 mg(Ba)/m<sup>3</sup> UK OES TWA

MEASUREMENT METHOD: Particulate filter; Water; Atomic absorption spectrometry; NIOSH III # 7056, Barium, Soluble Compounds

VENTILATION: Provide local exhaust or process enclosure ventilation system.  
Ensure compliance with applicable exposure limits.

EYE PROTECTION: Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

CLOTHING: Wear appropriate chemical resistant clothing.

GLOVES: Wear appropriate chemical resistant gloves.

RESPIRATOR: The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA.

Measurement Element:

Barium (Ba)

5 mg/m<sup>3</sup>

Any dust and mist respirator.

Any supplied-air respirator.

12.5 mg/m<sup>3</sup>

Any supplied-air respirator.

Any powered, air-purifying respirator with a dust and mist filter.

25 mg/m<sup>3</sup>

Any air-purifying respirator with a full facepiece and a high-efficiency particulate filter.

Any supplied-air respirator with a full facepiece.

Any powered, air-purifying respirator with a full facepiece and a high-efficiency particulate filter.

Any self-contained breathing apparatus with a full facepiece.

Any supplied-air respirator with a full facepiece.

50 mg/m<sup>3</sup>

Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode.

Escape -

Any air-purifying respirator with a full facepiece and a high-efficiency particulate filter.

Any appropriate escape-type, self-contained breathing apparatus.

For Unknown Concentrations 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.

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## SECTION 9      PHYSICAL AND CHEMICAL PROPERTIES

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PHYSICAL STATE: solid

PHYSICAL FORM: powder

ODOR: Not available

MOLECULAR WEIGHT: 558.15

MOLECULAR FORMULA: C<sub>18</sub>H<sub>13</sub>CLN<sub>2</sub>O<sub>6</sub>S.BA

BOILING POINT: Not applicable

MELTING POINT: Not available

VAPOR PRESSURE: Not applicable

VAPOR DENSITY: Not applicable

SPECIFIC GRAVITY: Not available

WATER SOLUBILITY: <3.5%

PH: Not applicable

VOLATILITY: Not applicable

ODOR THRESHOLD: Not available

EVAPORATION RATE: Not applicable

COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available

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## SECTION 10 STABILITY AND REACTIVITY

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REACTIVITY: Stable at normal temperatures and pressure.

CONDITIONS TO AVOID: Avoid heat, flames, sparks and other sources of ignition.

Avoid contact with incompatible materials.

INCOMPATIBILITIES: oxidizing materials

C.I. PIGMENT RED 48, BARIUM SALT:

OXIDIZERS (STRONG): Fire and explosion hazard.

HAZARDOUS DECOMPOSITION:

Thermal decomposition products: oxides of carbon, nitrogen, sulfur, barium,  
halogenated compounds

POLYMERIZATION: Will not polymerize.

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## SECTION 11 TOXICOLOGICAL INFORMATION

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C.I. PIGMENT RED 48, BARIUM SALT:

TOXICITY DATA:

>6400 mg/kg oral-rat LD50 (BASF); 5420 mg/m<sup>3</sup>/4 hour(s) inhalation-rat LCLo

ACUTE TOXICITY LEVEL: Insufficient Data.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: respiratory disorders

HEALTH EFFECTS:

INHALATION:

ACUTE EXPOSURE:

C.I. PIGMENT RED 48, BARIUM SALT: No specific data available. Inhalation

of soluble barium compounds may cause irritation of the respiratory tract with sore throat, coughing and labored breathing. If sufficient amounts are absorbed, effects may occur as detailed in acute ingestion.

**CHRONIC EXPOSURE:**

C.I. PIGMENT RED 48, BARIUM SALT: No data available.

**SKIN CONTACT:**

**ACUTE EXPOSURE:**

C.I. PIGMENT RED 48, BARIUM SALT: Soluble barium compounds may cause irritation. A few azo dyes cause contact dermatitis. If absorbed through broken skin, azo dyes may cause nausea, vomiting, abdominal pain, diarrhea, fever, malaise, and hypotension. Some azo dyes may cause sensitization dermatitis in previously exposed individuals.

**CHRONIC EXPOSURE:**

C.I. PIGMENT RED 48, BARIUM SALT: Repeated or prolonged contact with some azo dyes may cause sensitization.

**EYE CONTACT:**

**ACUTE EXPOSURE:**

C.I. PIGMENT RED 48, BARIUM SALT: Contact with soluble barium compounds may cause irritation.

**CHRONIC EXPOSURE:**

C.I. PIGMENT RED 48, BARIUM SALT: No data available.

**INGESTION:**

**ACUTE EXPOSURE:**

C.I. PIGMENT RED 48, BARIUM SALT: Ingestion of azo dyes may cause nausea, vomiting, abdominal pain, diarrhea, fever, malaise, and hypotension. In addition to effects caused by azo dyes, soluble barium compounds may cause dryness and a sense of constriction of the mouth and throat and a metallic taste. Systemic effects follow and may include ocular changes, causing blurred vision. The barium ion has a strong and prolonged stimulant action on the muscles which may result in violent peristalsis, transient arterial hypertension, vasoconstriction, tingling of the extremities, muscle twitching and convulsive tremors. In more serious cases, hypokalemia may occur and result in abnormalities of myocardial function and impaired neuromuscular function, which may vary from minimal weakness to frank

paralysis. Other effects may include dyspnea, cyanosis, giddiness, dizziness, tinnitus, anxiety, and gradually increasing sleepiness with mental confusion. The central nervous system may be first stimulated and then depressed. Hemorrhages may occur in the stomach, intestines and kidneys. Kidney damage has been described. Collapse and death, possibly delayed, may occur due to respiratory failure, severe hypokalemia or cardiac arrest.

**CHRONIC EXPOSURE:**

C.I. PIGMENT RED 48, BARIUM SALT: No data available.

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**SECTION 12      ECOLOGICAL INFORMATION**

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Not available

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**SECTION 13      DISPOSAL CONSIDERATIONS**

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Hazardous Waste Number(s): D005. Dispose of in accordance with U.S. EPA 40 CFR 262 for concentrations at or above the Regulatory level. Regulatory level- 100.0 mg/L. Dispose in accordance with all applicable regulations.

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**SECTION 14      TRANSPORT INFORMATION**

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No classification assigned.

LAND TRANSPORT ADR/RID: No classification assigned.

AIR TRANSPORT IATA/ICAO: No classification assigned.

MARITIME TRANSPORT IMDG: No classification assigned.

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**SECTION 15      REGULATORY INFORMATION**

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U.S. REGULATIONS:

TSCA INVENTORY STATUS: Y

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

CERCLA SECTION 103 (40CFR302.4): N

SARA SECTION 302 (40CFR355.30): N

SARA SECTION 304 (40CFR355.40): N

SARA SECTION 313 (40CFR372.65): Y

BARIUM, SOLUBLE COMPOUNDS (as Ba)

SARA HAZARD CATEGORIES, SARA SECTIONS 311/312 (40CFR370.21):

ACUTE: N

CHRONIC: N

FIRE: N

REACTIVE: N

SUDDEN RELEASE: N

OSHA PROCESS SAFETY (29CFR1910.119): N

STATE REGULATIONS:

California Proposition 65: N

EUROPEAN REGULATIONS:

EC NUMBER (EINECS): 231-494-8

GERMAN REGULATIONS:

WATER HAZARD CLASS (WGK): 0 (Self Classification by Manufacturers and Distributors)

WATER HAZARD CLASS (WGK): 1 (Self Classification by Manufacturers and Distributors)

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SECTION 16 OTHER INFORMATION

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A backslash is the left and margin indicates an amendment from the previous version.

The information contained herein is based on the present state of our knowledge and does not therefore guarantee certain properties.

Recipients of our product must take responsibility for observing existing laws and Regulations.