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[MATERIAL SAFETY DATA SHEET (MSDS)]

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SECTION 1      CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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AUTHORIZED BY MDL FOR INTERNAL USE ONLY. FOR EXTERNAL USE, SEE SECTION 16.

FIRST COLOR CO.,LTD..  
1236-1, JEUNGWANG-DONG, SHIHUNG,  
KYOUNGGI-DO, KOREA

EMERGENCY TELEPHONE NUMBER:  
TEL : 82-31-432-6977  
FAX : 82-31-432-6329

SUBSTANCE: C.I. PIGMENT RED 146

TRADE NAMES/SYNONYMS : FIRST RED 1460

C.I. PIGMENT RED 146

CHEMICAL FAMILY: azo

CREATION DATE: Feb 28 1992

REVISION DATE: Jun 17 2007

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SECTION 2      COMPOSITION, INFORMATION ON INGREDIENTS

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COMPONENT: C.I. PIGMENT RED 146

CAS NUMBER: 5280-68-2

EC NUMBER (EINECS): 226-103-2

PERCENTAGE: 100.0

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SECTION 3      HAZARDS IDENTIFICATION

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

EC CLASSIFICATION (CALCULATED): No determined.

EMERGENCY OVERVIEW:

PHYSICAL FORM: solid

MAJOR HEALTH HAZARDS: No significant target effects reported.

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

POTENTIAL HEALTH EFFECTS:

INHALATION:

SHORT TERM EXPOSURE: irritation

LONG TERM EXPOSURE: no information is available

SKIN CONTACT:

SHORT TERM EXPOSURE: no information on significant adverse effects

LONG TERM EXPOSURE: no information is available

EYE CONTACT:

SHORT TERM EXPOSURE: no information is available

LONG TERM EXPOSURE: no information is available

INGESTION:

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

LONG TERM EXPOSURE: no information is available

CARCINOGEN STATUS:

OSHA: N

NTP: Y

IARC: Y

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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. If person is unconscious, turn head to side. Get medical attention immediately.

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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.

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 146:

No occupational exposure limits established.

VENTILATION: Provide local exhaust ventilation system. Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. 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: 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.

Any dust, mist, and fume respirator.

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

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

Any powdered, air-purifying respirator with a high-efficiency particulate filter.

For Unknown Concentrations or Immediately Dangerous to Life of Health -

Any supplied-air respirator with full facepiece and operate 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

ODOR: Not available

MOLECULAR WEIGHT: 611.05

MOLECULAR FORMULA: C33-H27-CL-N4-06

BOILING POINT: Not applicable

MELTING POINT: Not applicable

VAPOR PRESSURE: Not applicable

VAPOR DENSITY: Not applicable

SPECIFIC GRAVITY: Not available

WATER SOLUBILITY: Not available

PH: Not applicable

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, flamed, sparks and other sources of ignition.  
Avoid contact with incompatible materials.

INCOMPATIBILITIES: oxidizing materials

C.I. PIGMENT RED 146:

OXIDIZERS (STRONG): Fire and explosion hazard.

HAZARDOUS DECOMPOSITION:

Thermal decomposition product: oxides of nitrogen, carbon, halogenated compounds

POLYMERIZATION: Will not polymerize..

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SECTION 11 TOXICOLOGICAL INFORMATION

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C.I. PIGMENT RED 146:

TOXICITY DATA:

10000 mg/kg oral-rat LD50

ACUTE TOXICITY LEVEL:

Slightly Toxic: ingestion

ADDITIONAL DATA: May cross react with similar compounds.

HEALTH EFFECTS:

INHALATION:

ACUTE EXPOSURE:

C.I. PIGMENT RED 146: No specific data available. Some azo dyes may cause irritation.

CHRONIC EXPOSURE:

C.I. PIGMENT RED 146: No data available.

SKIN CONTACT:

ACUTE EXPOSURE:

C.I. PIGMENT RED 146: No specific data available. Some azo dyes may cause allergic contact dermatitis.

EYE CONTACT:

ACUTE EXPOSURE:

C.I. PIGMENT RED 146: No data available.

CHROME EXPOSURE:

C.I. PIGMENT RED 146: No data available

INGESTION:

ACUTE EXPOSURE:

C.I. PIGMENT RED 146: The LD50 for rats was >10000 mg/kg. Some azo dyes cause nausea, vomiting, abdominal pain, diarrhea, fever, general malaise, And hypotension.

CHRONIC EXPOSURE:

C.I. PIGMENT RED 146: 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): D008. Dispose of in accordance with U.S. EPA 40 CFR 262 for concentrations at or above the Regulatory level. Regulatory level- 5.0 mg/L. Hazardous Waste Number(s): D007. Dispose of in accordance with U.S. EPA 40 CFR 262 for concentrations at or above the Regulatory level. Regulatory level- 5.0 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: Y

HEXAVALENT CHROMIUM CHEMICALS

SECTION 6

CERCLA SECTION 103 (40CFR302.4): N

SARA SECTION 302 (40CFR355.30): N

SARA SECTION 304 (40CFR355.40): N

SARA SECTION 313 (40CFR372.65): Y

LEAD COMPOUNDS

Chromium Compounds

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

ACUTE: Y

CHRONIC: Y

FIRE: N

REACTIVE: N

SUDDEN RELEASE: N

OSHA PROCESS SAFETY (29CFR1910.119): N

STATE REGULATIONS:

California Proposition 65: Y

Known to the state of California to cause the following:

LEAD COMPOUNDS

Cancer (Oct 01, 1992)

Hexavalent Chromium Compounds

Cancer (Feb 27, 1987)

EUROPEAN REGULATIONS:

EC NUMBER (EINECS): 235-759-9

EC RISK AND SAFETY PHRASES:

R 33 Danger of cumulative effects.

R 40 Possible risks of irreversible effects.

R 61 May cause harm to unborn child.

R 62 Possible risk of impaired fertility.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 53

Avoid exposure - obtain special instructions before use.

GERMAN REGULATIONS:

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.