
MATERIAL SAFETY DATA SHEET(MSDS)]

SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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

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

SUBSTANCE: LEAD CHROMATE-LEAD SULFATE
TRADE NAMES/SYNONYMS: ROYAL YELLOW 4100

C.I. PIGMENT YELLOW 34; C.I. 77600; C.I. 77603; HEXAVALENT CHROMIUM CHEMICALS; OHS12583
CHEMICAL FAMILY: inorganic, salt
CREATION DATE: Sep 27 1991
REVISION DATE: Mar 09 2007

SECTION 2 COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: LEAD CHROMATE-LEAD SULFATE
CAS NUMBER: 1344-37-2
EC NUMBER (EINECS): 215-693-7
EC INDEX NUMBER: 082-009-00-X
PERCENTAGE: 100.0

SECTION 3 HAZARDS IDENTIFICATION

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

- Carcinogen Category 3
- Reproductive Toxin Category 1
- Reproductive Toxin Category 3

R 33-40-61-62
EC Classification may be inconsistent with independently-researched data.
EMERGENCY OVERVIEW:
PHYSICAL FORM: solid
MAJOR HEALTH HAZARDS: allergic reactions, birth defects, cancer hazard (in humans)

POTENTIAL HEALTH EFFECTS:
INHALATION:
SHORT TERM EXPOSURE: irritation, allergic reactions, metallic taste, vomiting, digestive disorders, loss of voice, chest pain, difficulty breathing, headache, dizziness, disorientation, tingling sensation, lung congestion, paralysis, effects on the brain, convulsions
LONG TERM EXPOSURE: lack of sense of smell, lack of sense of smell and taste, black lines on the gums, tooth decay, asthma, visual disturbances,impotence, sterility, lung damage, kidney damage, liver damage, nerve damage, reproductive effects, coma, cancer
SKIN CONTACT:
SHORT TERM EXPOSURE: irritation, allergic reactions
LONG TERM EXPOSURE: same as effects reported in short term exposure
EYE CONTACT:
SHORT TERM EXPOSURE: irritation, eye damage
LONG TERM EXPOSURE: tearing, red bands around the cornea
INGESTION:
SHORT TERM EXPOSURE: same as effects reported in short term inhalation, allergic reactions, vomiting, digestive disorders, dizziness, nerve damage, convulsions, coma
LONG TERM EXPOSURE: same as effects reported in long term inhalation
CARCINOGEN STATUS:
OSHA: N
NTP: Y
IARC: Y

SECTION 4 FIRST AID MEASURES

INHALATION: When safe to enter area, remove from exposure. Use a bag valve mask or similar device to perform artificial respiration (rescue breathing) if needed. Keep warm and at rest. Get medical attention immediately.
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.
ANTIDOTE: dimercaprol, intramuscular. dextrose/water, intravenous; mannitol solution, intravenous; dimercaprol, intramuscular; calcium disodium

edetate/procaine, intramuscular; penicillamine, oral.
NOTE TO PHYSICIAN: For inhalation, consider oxygen. For ingestion,consider gastric lavage. Consider oxygen.

SECTION 5 FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS: Negligible fire hazard.
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.

SECTION 6 ACCIDENTAL RELEASE MEASURES

WATER RELEASE:
Add an alkaline material (lime, crushed limestone, sodium bicarbonate, or soda ash). Absorb with activated carbon. Remove trapped material with suction hoses. Collect spilled material using mechanical equipment. Subject to California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). Keep out of water supplies and sewers.
OCCUPATIONAL RELEASE:
Do not touch spilled material. Stop leak if possible without personal risk. Small spills: Absorb with sand or other non-combustible material. Collect with absorbent into suitable container. Small dry spills: Collect spilled material in appropriate container for disposal. Move containers away from spill to a safe area. Large spills: Dike for later disposal. Keep unnecessary people away, isolate hazard area and deny entry. Reportable Quantity (RQ): Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800)424-8802 (USA) or (202)426-2675 (USA).

SECTION 7 HANDLING AND STORAGE

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

SECTION 8 EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:
LEAD CHROMATE-LEAD SULFATE:
If any employee is exposed to lead for more than 8 hours per day, use the following formula for the maximum permissible limit (in ug(Pb/m3): 400 divided by hours worked in the day. If any employee is exposed to lead for more than 8 hours per day, use the following formula for the maximum permissible limit (in ug(Pb/m3): 400 divided by hours worked in the day.

LEAD CHROMATE:
50 ug(Pb)/m3 OSHA TWA 8 hour(s)
30 ug(Pb)/m3 OSHA action level 8 hour(s)
0.1 mg(CRO3)/m3 OSHA ceiling
0.05 mg(Pb)/m3 ACGIH TWA
0.012 mg(Cr)/m3 ACGIH TWA
0.10 mg(Pb)/m3 NIOSH recommended TWA
0.001 mg(Cr(VI))/m3 NIOSH recommended TWA
LEAD, INORGANIC FUMES AND DUST (as Pb):
50 ug/m3 OSHA TWA 8 hour(s)
30 ug/m3 OSHA action level 8 hour(s)
0.05 mg/m3 ACGIH TWA
0.10 mg/m3 NIOSH recommended TWA 10 hour(s)

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. OSHA REGULATED SUBSTANCES: U.S. OSHA 29 CFR 1910.1025.

RESPIRATOR: The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA.
Measurement Element:
Chromium (Cr)
At any detectable concentration -
Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

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.

Escape -

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

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

Lead (Pb)

.50 mg/m3

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

Any supplied-air respirator.

1.25 mg/m3

Any supplied-air respirator.

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

2.5 mg/m3

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.

50 mg/m3

Any supplied-air respirator operated in a pressure-demand or other positive-pressure mode.

100 mg/m3

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.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: solid

ODOR: Not available

BOILING POINT: Not applicable

MELTING POINT: Not available
VAPOR PRESSURE: Not applicable
VAPOR DENSITY: Not applicable
SPECIFIC GRAVITY: Not available
WATER SOLUBILITY: Not available
PH: Not applicable
VOLATILITY: Not applicable
ODOR THRESHOLD: Not available
EVAPORATION RATE: Not applicable
COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: Stable at normal temperatures and pressure.
CONDITIONS TO AVOID: Avoid heat, flames, sparks and other sources of ignition. Avoid generating dust. Keep out of water supplies and sewers.
INCOMPATIBILITIES: bases, oxidizing materials, halogens, peroxides, metals, combustible materials, metal carbide, acids

HAZARDOUS DECOMPOSITION:
Thermal decomposition products: oxides of lead, chromium compounds
POLYMERIZATION: Will not polymerize.

SECTION 11 TOXICOLOGICAL INFORMATION

LEAD CHROMATE-LEAD SULFATE:
CARCINOGEN STATUS: NTP: Known Human Carcinogen; IARC: Human Inadequate Evidence, Animal Sufficient Evidence, Group 2B (Lead and inorganic lead compounds), Human Sufficient Evidence, Animal Sufficient Evidence, Group 1 (Hexavalent chromium compounds); ACGIH: A2 -Suspected Human Carcinogen
TARGET ORGANS: immune system (sensitizer), nervous system, kidneys, teratogen
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: blood system disorders, heart or cardiovascular disorders, liver disorders, respiratory disorders, skin disorders and allergies
ADDITIONAL DATA: May be excreted in breast milk.

SECTION 12 ECOLOGICAL INFORMATION

Not available

SECTION 13 DISPOSAL CONSIDERATIONS

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.

SECTION 14 TRANSPORT INFORMATION

No classification assigned.

SECTION 15 REGULATORY INFORMATION

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): 215-693-7

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.

SECTION 16 OTHER INFORMATION

MSDS SUMMARY OF CHANGES

- SECTION 3 HAZARDS IDENTIFICATION
- SECTION 10 STABILITY AND REACTIVITY
- SECTION 11 TOXICOLOGICAL INFORMATION
- SECTION 12 ECOLOGICAL INFORMATION
- SECTION 15 REGULATORY INFORMATION