SAFETY DATA SHEET

Issue Date 11-Aug-2015 **Revision Date** 11-Aug-2015 **Version** 1

LC **Legacy Colourant**

1. IDENTIFICATION

Product identifier
Product Name Legacy Colourant

Other means of identification
Product Code LC

Recommended use of the chemical and restrictions on use
Recommended Use Coloring agent for Concrete.
Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Address	**Manufacturer Address**
Solomon Colors, Inc.	Solomon Colors, Inc.
4050 Color Plant Road	4050 Color Plant Road
Springfield, IL 62702	Springfield, IL 62702

Company Phone Number 800-624-0261 (US & Canada); 217-522-3112 (Outside North America)
24 Hour Emergency Phone Number 800-373-7542

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.122)

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Label elements

Emergency Overview

Hazard statements
Do not allow product to dry. Dried product may be harmful if inhaled.

The product contains no substances which at their given concentration, are considered to be hazardous to health

Appearance Viscous **Physical state** Liquid **Odor** Characteristic

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
May cause eye irritation. May cause: tearing, redness, discomfort.
If eye irritation persists: Get medical advice/attention
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
IF SWALLOWED: Rinse mouth. DO NOT induce vomiting
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

Precautionary Statements - Storage
Store in accordance with local regulations
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Other Information

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight-%	Trade Secret
Yellow Iron Oxide	51274-00-1	0-100	*
Titanium Dioxide	13463-67-7	0-100	*
Red Iron Oxide	1309-37-1	0-90	*
Cobalt Blue	1345-16-0	0-65	*
Chrome Oxide	1308-38-9	0-50	*
Carbon Black	1333-86-4	0-10	*
Black Iron Oxide	1317-61-9	0-100	*
Proprietary Dispersant	Proprietary	1 -10	*
Aluminum Silicate	12199-37-0	1-5	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

General advice — In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Eye contact — Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. (Get medical attention immediately if irritation persists.).

Skin Contact — Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. In the case of skin irritation or allergic reactions see a physician.

Inhalation — IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician.

Ingestion — Clean mouth with water. Remove from exposure, lie down. Do not induce vomiting without medical advice. Consult a physician if necessary.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

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

Unsuitable extinguishing media Caution: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical
No information available.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Avoid creating dust. Evacuate personnel to safe areas.

Environmental precautions

Environmental precautions See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Vacuum or sweep up material and place in a designated labeled waste container. Prevent further leakage or spillage if safe to do so. Prevent dust cloud.

Methods for cleaning up With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. Take up with sand, earth or other non-combustible absorbent material. Use personal protective equipment as required.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep from freezing. Keep cool. Protect from sunlight. Store at temperatures not exceeding 80 °C/ 176 °F.

Incompatible materials Strong oxidizing agents. Strong acids.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies. The TWA limits are set for Iron or Iron Oxide fumes. The Iron Oxide pigments do not contain any Iron or Iron Oxide fumes.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Titanium Dioxide 13463-67-7	TWA: 10 mg/m³	TWA: 15 mg/m³ total dust (vacated) TWA: 10 mg/m³ total dust	IDLH: 5000 mg/m³
Red Iron Oxide 1309-37-1	TWA: 5 mg/m³ respirable fraction	TWA: 10 mg/m³ fume TWA: 15 mg/m³ total dust TWA: 5 mg/m³ respirable fraction (vacated) TWA: 10 mg/m³ fume and total dust Iron oxide (vacated) TWA: 5 mg/m³ respirable fraction regulated under Rouge	IDLH: 2500 mg/m³ Fe dust and fume TWA: 5 mg/m³ Fe dust and fume
Cobalt Blue 1345-16-0	TWA: 0.02 mg/m³ Co TWA: 1 mg/m³ respirable fraction	-	-
Chrome Oxide 1308-38-9	TWA: 0.5 mg/m³ Cr	TWA: 0.5 mg/m³ Cr (vacated) TWA: 0.5 mg/m³ Cr	IDLH: 25 mg/m³ Cr(III) TWA: 0.5 mg/m³ Cr
Carbon Black 1333-86-4	TWA: 3 mg/m³ inhalable fraction	TWA: 3.5 mg/m³ (vacated) TWA: 3.5 mg/m³	IDLH: 1750 mg/m³ TWA: 3.5 mg/m³ TWA: 0.1 mg/m³ Carbon black in presence of Polycyclic aromatic hydrocarbons PAH

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Avoid contact with eyes. Wear safety glasses with side shields (or goggles).

Skin and body protection Wear protective gloves and protective clothing. Protective shoes or boots.

Respiratory protection In case of inadequate ventilation wear respiratory protection.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice. Regular cleaning of equipment, work area and clothing is recommended. Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid		
Appearance	Viscous	**Odor**	Characteristic
Color	Various	**Odor threshold**	Not applicable

Property	Values	Remarks • Method
pH	8.0 - 10.0	
Melting point/freezing point	No information available	
Boiling point / boiling range	No information available	
Flash point	No information available	
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	

Vapor pressure	No information available
Vapor density	No information available
Specific Gravity	4.0 - 5.0
Water solubility	No information available
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available
Dynamic viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under normal conditions.

Possibility of Hazardous Reactions
None under normal processing.

Hazardous polymerization None under normal processing.

Conditions to avoid
Extremes of temperature and direct sunlight.

Incompatible materials
Strong oxidizing agents. Strong acids.

Hazardous Decomposition Products
None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information Product does not present an acute toxicity hazard based on known or supplied information. Dried product might be harmful if inhaled.

Inhalation May cause irritation of respiratory tract.

Eye contact May cause mechanical irritation (abrasion).

Skin Contact May cause mechanical irritation (abrasion).

Ingestion No known effect based on information supplied.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Titanium Dioxide 13463-67-7	> 10000 mg/kg (Rat)	-	-
Red Iron Oxide 1309-37-1	> 10000 mg/kg (Rat)	-	-
Carbon Black 1333-86-4	> 15400 mg/kg (Rat)	> 3 g/kg (Rabbit)	-
Black Iron Oxide 1317-61-9	> 10000 mg/kg (Rat)	-	-

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.
Germ cell mutagenicity No information available.

Carcinogenicity

This product might contain up to 100% Titanium Dioxide. In 2006, the International Agency for Research on Cancer (IARC) evaluated TiO2 as “possibly carcinogenic to humans” (Group 2B) based primarily on studies in rats. Inhalation exposures to TiO2 in rats can result in lung effects and lung tumors. However, it is generally recognized that the rat is uniquely sensitive to the effects of “lung overload” which is not observed in other species including humans (Ref. 6). These facts are supported by the results from four large epidemiology studies involving more than 20,000 workers in the titanium dioxide manufacturing industry in North America and Europe which indicate no association with an increased risk of cancer or with any other adverse lung effects (Ref. 1,2,3,4,5,7).These studies did not specifically differentiate between the ultrafine and pigmentary TiO2. References: 1. Boffetta P, Gaborieau V, Nadon L, Parent M-E, Weiderpass E, Siemiatycki J. (2001). Exposure to titanium dioxide and risk of lung cancer in a population-based study from Montreal. Scand. J. Work Environ. Health 27:227-232. 2. Boffetta P., Soutar A., Cherrie J., Granath F., Andersen A., Anttila A., Blettner M., Gaborieau V., Klug S., Langard S., Luce D., Merletti F., Miller B., Mirabelli D., Pukkala E., Adami H-O., and Weiderpass E. (2004). Mortality among workers employed in the titanium dioxide industry in Europe. Cancer Causes and Control 15(7):697-706. 3. Chen J, and Fayerweather W. (1988). Epidemiologic study of workers exposed to titanium dioxide. J. Occup.Med. 30(12):937-42. 4. Fryzek J, Chadda B, Marano D, White K, Schweitzer S, McLaughlin J, and Blot W. (2003). A cohort mortality study among titanium dioxide manufacturing workers in the United States. J. Occup. Environ. Med. 45(4): 400-09. 5. Garabrant D.H., Fine L.J., Oliver C., Bernstein L., and Peters J.M. (1987). Abnormalities oof pulmonary function and pleural disease among titanium metal production workers. Scand. J. Work Environ. Health 13(1):47-51. 6. Levy L. S. (1994). Squamous Lung Lesions Associated with Chronic Exposure by Inhalation of Rats to p-Aramid Fibrils (Fine Fiber Dust) and to Titanium Dioxide: Findings of a Pathology Workshop. In: Mohr, U (Ed), Toxic and carcinogenic effects of solid particles in the respiratory tract, ILSI Press, 473-478. 7. Ramanakumar AV, Parent ME, Latreille B, Siemiatycki J. (2008). Risk of lung cancer following exposure to carbon black, titanium dioxide and talc: results from two case-control studies in Montreal. Int J Cancer 122:183-9. This product might contain up to 10% Carbon Black. Not a hazardous substance or preparation according to the Global Harmonized System (GHS). In 1995 IARC concluded, “There is inadequate evidence in humans for the carcinogenicity of carbon black.” Based on rat inhalation studies IARC concluded that there is “sufficient evidence in experimental animals for the carcinogenicity of carbon black”. IARC’s overall evaluation was that “Carbon black is possibly carcinogenic to humans (Group 2B).” This conclusion was based on IARC’s guidelines, which require such a classification if one animal species exhibits carcinogenicity in two or more studies. Lung tumors in rats are the result of exposure under “lung overload” conditions. The development of lung tumors in rats is specific to this species. Mouse and hamster showed no carcinogenicity in similar studies. In 2006 IARC re-affirmed its 1995 classification of carbon black as Group 2B (possibly carcinogenic to humans). Overall, as a result of the detailed epidemiological investigations, no causative link between carbon black exposure and cancer risk in humans has been demonstrated. This view is consistent with the IARC evaluation in 2006. Furthermore, several epidemiological and clinical studies of workers in the carbon black production industries show no evidence of clinically significant adverse health effects due to occupational exposure to carbon black. No dose response relationship was observed in workers exposed to carbon black. Applying the rules of the Globally Harmonized System of Classification and Labeling (GHS, e.g. UN `Purple Book´, EU CLP Regulation) the results of repeated dose toxicity and carcinogenicity studies in animals do not lead to classification of Carbon Black for Specific Target Organ Toxicity (Repeated exposure) and carcinogenicity. UN GHS says, that even if adverse effects are seen in animal studies or in-vitro tests, no classification is needed if the mechanism or mode of action is not relevant to humans. The European CLP Regulation also mentions, that no classification is indicated if the mechanism is not relevant to humans. Furthermore, the CLP guidance on classification and labeling states, that “lung overload“ in animals is listed under mechanism not relevant to humans. This product might contain up to 65% Cobalt Blue. Cobalt has not been shown to be carcinogenic to humans. The National Toxicology Program (NTP) does not recognize cobalt as an animal or human carcinogen. This product is a cobalt containing compound. The International Agency for Research on Cancer (IARC. This product may contain up to 50% Chromium Oxide (III). This material may contain approximately 100 ppm hexavalent Chromium. Chromium hexavalent (VI) compounds are known to be human carcinogens based on sufficient evidence of carcinogenicity from studies in humans.

Chemical Name	ACGIH	IARC	NTP	OSHA
Titanium Dioxide 13463-67-7	-	Group 2B	-	X

Red Iron Oxide 1309-37-1	-	Group 3	-	-
Cobalt Blue 1345-16-0	A3	Group 2B	-	X
Chrome Oxide 1308-38-9	-	Group 3	-	-
Carbon Black 1333-86-4	A3	Group 2B	-	X

Reproductive toxicity No information available.
STOT - single exposure No information available.
STOT - repeated exposure No information available.
Aspiration hazard No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 20403 mg/kg
ATEmix (dermal) 16216 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Carbon Black 1333-86-4	-	-	5600: 24 h Daphnia magna mg/L EC50

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Other adverse effects No known significant effects or critical hazards.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes This material, as supplied, is not a hazardous waste according to state and federal regulations (40 CFR 261). Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

Chemical Name	California Hazardous Waste Status
Cobalt Blue 1345-16-0	Toxic
Chrome Oxide 1308-38-9	Toxic Corrosive Ignitable

14. TRANSPORT INFORMATION

DOT	Not regulated
TDG	Not regulated
MEX	Not regulated
ICAO (air)	Not regulated
IATA	Not regulated
IMDG	Not regulated
RID	Not regulated
ADR	Not regulated
ADN	Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Does not comply
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
Cobalt Blue - 1345-16-0	0.1
Chrome Oxide - 1308-38-9	1.0

SARA 311/312 Hazard Categories

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Chrome Oxide 1308-38-9	-	X	-	-

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

Chemical Name	California Proposition 65
Titanium Dioxide - 13463-67-7	Carcinogen
Carbon Black - 1333-86-4	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania

Titanium Dioxide 13463-67-7	X	X	X
Red Iron Oxide 1309-37-1	X	X	X
Cobalt Blue 1345-16-0	X	-	X
Chrome Oxide 1308-38-9	X	X	X
Carbon Black 1333-86-4	X	X	X

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA **Reactivity** 0 **Physical and Chemical Properties** - **HMIS** **Health hazards** 1

Flammability 0 **Physical hazards** 0 **Personal protection** X

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Revision Date 11-Aug-2015
Revision Note
No information available

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.

End of Safety Data Sheet