SAFETY DATA SHEET

Preparation Date: January 26, 2016
Supersedes: June 10, 2008

1. IDENTIFICATION OF THE PREPARATION AND OF THE COMPANY	**Trade Name:**	**Visolite Tracer Compound-All Colors**
	Chemical Name:	Calcium Carbonate with Dye
	Synonyms:	None
	Formula:	Mixture
	Product Use:	Tracer compound

COMPANY ADDRESS

11501 Outlook Street
Suite 100
Overland Park, KS 66211

TECHNICAL INFORMATION: **816-356-8400**

TRANSPORTATION EMERGENCY: **CHEMTREC (800) 424-9300**

2. HAZARDS IDENTIFICATION

May cause eye, skin and respiratory tract irritation. May cause gastrointestinal mucosal irritation. Long-term exposure may produce x-ray evidence of dust in lungs and may result in dermatitis in sensitive individuals. Avoid breathing dust or prolonged breathing of vapor. Use and store with adequate ventilation. Dust explosion hazard with ignition source.

Regulation (EC) No 1272/2008 Classification

Pictogram	Classification	Signal Word and Hazard Statements
	• Skin corrosion/irritation - Skin irritation (Category 2)	Warning: Causes skin irritation
	• Eye irritation - Category 2b	Warning: Causes eye irritation

GHS/CLP Precautionary Statements[†]

Prevention:	None
Response:	None
Storage:	None
Disposal:	None

[†]See Section 16 for definition of Precautionary Statements.

POTENTIAL HEALTH EFFECTS

EYE:	May cause eye irritation.
SKIN:	May cause skin irritation.
INHALATION:	May cause respiratory tract irritation.
INGESTION:	May cause gastrointestinal mucosal irritation.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:	Respiratory allergies and diseases may be aggravated in extreme exposure.
CHRONIC EFFECTS:	Long term overexposure to high concentrations of this dust may produce x-ray evidence of dust in lungs and may result in dermatitis for sensitive individuals.
POTENTIAL ENVIRONMENTAL EFFECTS	None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS Number	% by Weight
Calcium Carbonate	471-34-1	60-100%
Copolymer Resin	Proprietary	10-30%
Magnesium Carbonate	546-93-0	1-5%
Silica (Amorphous)	61790-53-2	0.1-5%

4. FIRST AID MEASURES

PROCEDURES

EYE CONTACT:	In case of contact, flush eyes with plenty of water for at least 15 minutes. If irritation persists, get medical attention.
SKIN CONTACT:	In case of contact, wash skin with plenty of water. Remove contaminated clothing and shoes and launder before reuse. If skin irritation develops and persists or recurs, get medical attention.
INHALATION:	If symptoms of lung irritation occur (coughing, wheezing or breathing difficulty), remove from exposure area to fresh air immediately. If breathing has stopped perform emergency resuscitation. Keep affected person warm and at rest. Get medical attention.
INGESTION:	If swallowed, and person is conscious, immediately give person large amounts of water. Get medical attention. Never give anything by mouth to an unconscious or convulsing person. Induce vomiting only if instructed by a physician.
NOTE TO PHYSICIANS	None known. Use general supportive care.

5. FIRE FIGHTING MEASURES

UNUSUAL FIRE AND EXPLOSION HAZARDS:	Organic portions of mixture have been implicated in dust explosions ignited by static sparks. Fumes released on burning are toxic and dangerous.
EXTINGUISHING MEDIA:	Dry chemical, water spray, or other extinguishing agent suitable for Class A fires. At higher temperatures, carbon dioxide would be released by mixture to help extinguish fires.
PROTECTION OF FIREFIGHTERS:	Firefighters must wear approved positive pressure self-contained breathing apparatus with full face mask (e.g., NIOSH/MSHA-approved) and full protective clothing. Fire should be approached from upwind.

6. ACCIDENTAL RELEASE MEASURES

Contain mix and recover. Dampen material to restrict dust formation. Use protective gloves, goggles and respirator to remove spill. Personal safety and exposure recommendations described elsewhere in this data sheet apply to exposure during clean up of spilled material.

Waste Disposal: See Section 13 for Disposal Considerations.

7. HANDLING AND STORAGE

HANDLING:	Avoid contact with eyes and skin. Avoid generating dust or fumes. Do not breathe dust or fumes. Treat dust as a nuisance dust. Use with adequate local exhaust ventilation. Wear protective clothing to minimize skin contact. Remove contaminated clothing and clean before reuse. Wash thoroughly after work using soap and water.
STORAGE:	Store in original containers in a cool well ventilated and secure place. Keep container tightly closed.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Limits:	
ACGIH:	**Particles Not Otherwise Specified**- 3 mg/m^3 TWA (respirable particles); 10 mg/m^3 TWA (inhalable particles
OSHA:	**Magnesium carbonate**- 15 mg/m^3 TWA (total dust); 5 mg/m^3 TWA (respirable fraction) **Particulate Not Otherwise Classified**- 50 mppcf or 15 mg/m^3 TWA (total dust); 15 mppcf or 5 mg/m^3 TWA (respirable fraction)
NIOSH:	**Magnesium carbonate**- 10 mg/m^3 TWA (total dust); 5 mg/m^3 TWA (respirable fraction)
AUSTRALIA:	**Magnesium carbonate**- 10 mg/m^3 TWA **Silica (Amorphous)**- 10 mg/m^3 TWA
European Union:	
Austria:	**Silica (Amorphous)**- 4 mg/m^3 MAK (inhalable fraction)
Belgium:	**Magnesium carbonate**- 10 mg/m^3 TWA

	Silica (Amorphous)- 3 mg/m^3 TWA (respirable fraction); 10 mg/m^3 TWA (inhalable fraction)
Bulgaria:	**Silica (Amorphous)**- 1.0 mg/m^3 TWA (inhalable fraction); fibrogenic; irritant
Denmark:	**Silica (Amorphous)**- 1.5 mg/m^3 TWA (respirable)
Finland:	**Silica (Amorphous)**- 5 mg/m^3 TWA
France:	**Magnesium carbonate**- 10 mg/m^3 VME
Germany:	**Silica (Amorphous)**- 4 mg/m^3 MAK (inhalable fraction) **Particulate Not Otherwise Classified**- 4 mg/m^3 TWA (inhalable fraction, general dusts); 1.5 mg/m^3 TWA (respirable fraction, general dust)
Ireland:	**Magnesium carbonate**- 10 mg/m^3 TWA (total inhalable dust); 4 mg/m^3 TWA (respirable dust)
Latvia:	**Calcium carbonate**- 6 mg/m^3 TWA
Lithuania:	**Magnesium carbonate**- 10 mg/m^3 IPVR
Poland:	**Calcium carbonate**- 10 mg/m^3 NDS (total inhalable dust containing <2% free crystalline silica) **Silica (Amorphous)**- 10 mg/m^3 NDS (total inhalable dust); 2.0 mg/m^3 NDS (respirable dust)
Portugal:	**Calcium carbonate**- 10 mg/m^3 TWA (inhalable fraction, particulate matter containing no asbestos <1% crystalline silica)
Occupational Exposure Limits (Con't):	
Slovenia:	**Silica (Amorphous)**- 4 mg/m^3 TWA (inhalable fraction)
Spain:	**Calcium carbonate**- 10 mg/m^3 VLA-ED **Magnesium carbonate**- 10 mg/m^3 VLA-ED (this value is for the particulate matter that is free from asbestos and contains less than 1% of crystalline silica) **Silica (Amorphous)**- 10 mg/m^3 VLA-ED (inhalable fraction, this value is for the particulate matter that is free from asbestos and contains less than 1% of crystalline silica); 3 mg/m^3 VLA-ED (respirable fraction, this value is for the particulate matter that is free from asbestos and contains less than 1% of crystalline silica)
UK:	**Magnesium carbonate**- 30 mg/m^3 STEL (inhalable dust); 12 mg/m^3 STEL (respirable dust); 10 mg/m^3 TWA (inhalable dust); 4 mg/m^3 TWA (respirable dust) **Silica (Amorphous)**- 3.6 mg/m^3 STEL (respirable dust); 1.2 mg/m^3 TWA (respirable dust)
HONG KONG:	**Silica (Amorphous)**- 10 mg/m^3 TWA (total dust, containing no asbestos and <1% crystalline silica); 3 mg/m^3 TWA (respirable dust, containing no asbestos and <1% crystalline silica)
INDONESIA:	**Magnesium carbonate**- 10 mg/m^3 NAB **Silica (Amorphous)**- 10 mg/m^3 NAB (inhalable particulates, not containing asbestos and the Crystal content is less than 1%); 3 mg/m^3 NAB (respirable particulates, not containing asbestos and the crystal content is less than 1%)
KOREA:	**Magnesium carbonate**- 10 mg/m^3 TWA **Silica (Amorphous)**- 10 mg/m^3 TWA
MALAYSIA:	**Magnesium carbonate**- 10 mg/m^3 TWA (particulate matter containing no asbestos <1% crystalline silica) **Silica (Amorphous)**- 10 mg/m^3 TWA (particulate matter containing no asbestos and <1% crystalline silica, inhalable fraction); 3 mg/m^3 TWA (particulate matter containing no asbestos and <1% crystalline silica, respirable fraction)
PHILIPPINES:	**Silica (Amorphous)**- 20 mppcf TWA; ((80/(%SiO_2 + 2)) mg/m^3 TWA)
SINGAPORE:	**Magnesium carbonate**- 10 mg/m^3 PEL **Silica (Amorphous)**- 10 mg/m^3 PEL

THAILAND:	**Silica (Amorphous)**- 20 mppcf TWA (80/(%SiO_2) mg/m^3 TWA)

ENGINEERING CONTROLS:	Provide local exhaust ventilation to maintain exposure levels below the occupational exposure limits.
EYE / FACE PROTECTION:	Chemical splash goggles should be worn.
SKIN PROTECTION:	Wear rubber gloves and other protective clothing (aprons, coveralls) as appropriate to prevent skin contact when using this product. Wash hands thoroughly after handling, especially before eating, drinking or smoking.
RESPIRATORY PROTECTION:	If exposure limits are exceeded or respiratory irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with local regulations (e.g., OSHA 29 CFR 1910.134).
GENERAL HYGIENE CONSIDERATIONS:	Generation of airborne dusts should be kept to a minimum.

9. PHYSICAL AND CHEMICAL PROPERTIES

Property	**Value**	**Property**	**Value**
Appearance:	Fine powder, color indicated by pigment.	Flammability:	Not applicable
Odor:	Practically odorless.	Upper Explosive Limit:	None
Odor Threshold:	Not determined.	Lower Explosive Limit:	None
pH:	Not determined	Vapor Pressure (mm Hg):	Not applicable
Melting Point:	Not determined	Apparent Density (water = 1):	1.36
Initial Boiling Point:	None		
Boiling Range:	None	Solubility in Water:	Not determined
Relative Density:	Heavier than water	Partition Coefficient: n-octanol/water:	Not applicable
Flash Point:	None	Auto-Ignition Temperature:	Not applicable
Evaporation Rate:	Non-Volatile	Decomposition Temperature:	Not applicable
Viscosity:	Not determined	Volatile by Volume	0.00%

10. STABILITY AND REACTIVITY

STABILITY:	Stable under normal temperatures and pressure.
CONDITIONS TO AVOID:	Avoid excessive dust in vicinity of electrical or spark generating equipment. Avoid extreme heat.
MATERIALS TO AVOID:	Avoid acids, which will generate carbon dioxide.
HAZARDOUS DECOMPOSITION PRODUCTS:	Heat will release carbon dioxide. The fumes and smoke released contain oxides of carbon and nitrogen, which are highly toxic. Do not breathe smoke or fumes. Wear suitable protective equipment.
HAZARDOUS POLYMERIZATION:	Will not occur

11. TOXICOLOGICAL INFORMATION

POTENTIAL EXPOSURE ROUTES:	This product may be encountered through skin, eye contact, ingestion, or inhalation of dusts, fumes or powder.
SIGNS AND SYMPTOMS OF EXPOSURE:	May cause eye, skin and respiratory tract irritation. May cause gastrointestinal mucosal irritation. Long-term exposure may produce x-ray evidence of dust in lungs and may results in dermatitis in sensitive individuals.
ACUTE TOXICITY:	No data were identified for this product as a whole. Data are for constituents. <u>Calcium carbonate</u> 4-hour LC50 > 3 mg/L (rat, OECD Test Guideline TG 420) Dermal LD50 > 2000 mg/kg (rat, OECD TG 402) <u>Magnesium carbonate</u> Oral LC50 > 2000 mg/L (rat, OECD TG 420)

SERIOUS EYE DAMAGE/IRRITATION:	No data were identified for this product as a whole. Data are for constituents. Calcium carbonate- An eye irritation study performed according to OECD TG 405, instilled 0.1 mL calcium carbonate into the right eye of 3 male rabbits, the left eyes served as controls. No signs of irritation of the cornea or iris were observed at any time point and no chemosis was observed. Minor irritation of the conjunctivae was observed up to 72 hours post-instillation; however, these effects were fully reversible. Magnesium carbonate- Magnesium carbonate was found to be not irritating in an eye irritation/corrosion test performed according to OECD TG 405. In this study, 0.1 mL magnesium carbonate was instilled into the right eye (left eye served as a control) of two rabbits followed by a 72-hour observation period. Silica (Amorphous)- Necrosis or retina and atrophy of the choroid (finely divided silica injected into vitreous body of rabbit eyes); slightly irritating in other animal studies
SKIN CORROSION/IRRITATION:	No data were identified for this product as a whole. Data are for constituents. Calcium carbonate- In a skin irritation study performed according to OECD TG 404, 0.5 g calcium carbonate was applied to the shaved skin of 3 male rabbits for 4 hours under a semi-occlusive wrapping. Mean erythema and edema scores were zero at all observations; therefore, no evidence of skin irritation was noted during the study. Magnesium carbonate- In an *in vitro* test performed according to OECD TG 431, magnesium carbonate was applied to reconstituted human epidermis for 3, 60 and 240 min exposures. At the end of these exposures, the tissues were determined to be viable; therefore, calcium carbonate was considered to be non-corrosive in this assay.
RESPIRATORY OR SKIN SENSITIZATION:	No data were identified for this product as a whole. Data are for constituents. Calcium carbonate– Nanosized calcium carbonate powder was tested on mice in a local lymph node assay performed according to OECD TG 429 at concentrations up to 25 wt%. Under the conditions of this assay, calcium carbonate was not sensitizing.
STOT-SINGLE EXPOSURE:	No data were identified for this product or its constituents.

STOT-REPEAT EXPOSURE:	No data are available for this product as a whole. Data are for constituents.
	Calcium carbonate- A combined repeated dose toxicity study with reproduction and developmental toxicity screening test, performed according to OECD TG 422, is available for calcium carbonate. In this study, calcium carbonate was administered to ten male and ten female rats per dose group via gavage for up to 48 consecutive days of treatment. The doses were 0, 100, 300 and 1000 mg/kg bw/day. No systemic toxic effects were observed at any dose; therefore, the NOAEL is > 1000 mg/kg bw/day.
	Magnesium carbonate- Dust has produced a slight fibrosis with pulmonary deposition and retention of magnesium carbonate after prolonged exposures to high concentrations in animal experiments.
	Silica (Amorphous) - Dust has been reported to cause pneumoconiosis and silicosis in the lungs following inhalation exposure both in animals and in humans.
CARCINOGENICITY:	No data were identified for this product as a whole. Data are for constituents:
	Magnesium Carbonate - IARC Group 3 Carcinogen (Not classifiable as to its carcinogenicity to humans)
	Silica (Amorphous) - IARC Group 3 Carcinogen (Not classifiable as to its carcinogenicity to humans).
GERM CELL MUTAGENICITY:	No data were identified for this product as a whole. Data are for constituents:
	Calcium carbonate- In an *in vitro* bacterial reverse mutation assay performed according to OECD TG 471, calcium carbonate was negative for inducing mutations in two bacterial species, *Salmonella typhimurium* and *Escherichia coli*, at concentrations up to 5000 µg/plate. In a mammalian cell gene mutation assay (MGMA) with mouse lymphoma cells, calcium carbonate failed to induce mutations when tested up to 250 µg/mL. An *in vitro* chromosome aberration assay, performed according to OECD TG 473, found that calcium carbonate failed to induce chromosomal aberrations in human lymphocytes when tested up to 1000 µg/mL. All of these *in vitro* assays were performed with and without metabolic activation. No *in vivo* data are available for calcium carbonate.
	Silica (Amorphous) - Some *in vitro* evidence of germ cell mutagenicity has been identified in the literature. No *in vivo* data were identified.

REPRODUCTIVE TOXICITY EFFECTS:	No data were identified for this product as a whole. Data are for constituents.
	Calcium carbonate- A combined repeated dose toxicity study with reproduction and developmental toxicity screening test, performed according to OECD TG 422, is available for calcium carbonate. In this study, calcium carbonate was administered to ten male and ten female rats per dose group via gavage for up to 48 consecutive days of treatment. After two weeks of dosing rats were co-housed for a 14-day mating period. Treatment of females continued through gestation and early lactation. The doses were 0, 100, 300 and 1000 mg/kg bw/day. No effects on reproductive toxicity in the parental generation were observed at any dose; therefore, the reproductive NOAEL is > 1000 mg/kg bw/day. A prenatal dosing study, performed according to OECD TG 414, female rats were dosed (via the diet) with calcium carbonate for 6 weeks prior to mating and then until day twenty of gestation. No effects on the development of the pups were observed at any dose; therefore, the NOAEL was > 1.25 wt% (ca. 1963-2188 mg/kg bw/day).
ASPIRATION HAZARD:	Not relevant. Physical form of solid powder indicates no aspiration hazard potential.
INTERACTIONS WITH OTHER CHEMICALS WHICH ENHANCE TOXICITY:	None known.

12. ECOLOGICAL INFORMATION

ECOTOXICITY:	No data were identified for this product. Data are for constituents.
	Calcium carbonate: 96-hour LC50 > 100% (v/v) saturated solution (nanosized calcium carbonate, Rainbow trout, *Oncorhynchus mykiss*, OECD TG 203) 48-hour EC50 > 100% (v/v) saturated solution (nanosized calcium carbonate, Water flea, *Daphnia magna*, OECD TG 202) 72-hour EC50 > 14 mg/L (NOEC = 14 mg/L) based on growth rate and yield (nanosized calcium carbonate, Green algae, *Desmodesmus subspicatus*, OECD TG 201)
MOBILITY:	No data were identified for this product or its constituents.
PERSISTENCE/ DEGRADABILITY:	No data were identified for this product. Data are for constituents.
	Calcium and magnesium carbonate- Calcium and magnesium carbonate are inorganic salts which may dissociate into its constituent ions in the

	environment. However, no further degradation will occur. Amorphous silica (diatomaceous earth) is naturally-occurring in the environment and will not degrade.
BIOACCUMULATION:	No data were identified for this product. Data are for constituents. Constituents are inorganic salts and have no potential for bioaccumulation.

13. DISPOSAL CONSIDERATIONS

Small quantities may be disposed of as any dust or dirt. Dispose in accordance with all local, regional, national, or international regulations.

14. TRANSPORT INFORMATION

DOT/ADR/RID/IATA:	Not regulated

15. REGULATORY INFORMATION

U.S. SARA 313 LISTING:	None
U.S. SARA 312 HAZARD CLASS:	None
U.S. SARA EXTREMELY HAZARDOUS SUBSTANCES:	None
U.S. EPA HAZARDOUS SUBSTANCES LIST:	None
U.S. CLEAN WATER ACT:	None
U.S. CLEAN AIR ACT:	None
U.S. TSCA INVENTORY:	The chemical ingredients in this product are on the TSCA Inventory.
U.S. CERCLA:	Not regulated
OSHA HAZARD COMMUNICATION:	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
WHMIS REGULATIONS:	Not controlled
CALIFORNIA PROPOSITION 65:	This product complies with the MSDS and labeling requirements of the Safe Drinking Water and Toxic Enforcement Act of 1986 (Prop 65).
OTHER CHEMICAL INVENTORIES:	This product is in compliance with chemical inventory requirements for: • Canada (DSL) • China (IECSC) • Korea (ECL) • Philippines (PICCS) • New Zealand (NZIoC)

EU REGULATIONS: Silica (amorphous)- Biocidal Directive (1451/2007) - existing active substance; REACH (1907/2006) – substances regarded as being registered biocidal products; REACH (1907/2006) – substances regarded as being registered plant health products

16. OTHER INFORMATION

ABBREVIATIONS:

ACGIH:	American Conference of Governmental Industrial Hygienists
CAS:	Chemical Abstract Service Registry
CERCLA:	Comprehensive Environmental Response, Compensation, and Liability Act (U.S.)
CFR:	Code of Federal Regulations (U.S.)
CLP:	Classification, Labelling and Packaging Directive (EU)
DOT:	Department of Transportation (U.S.)
DSL:	Domestic Substances List (Canada)
EC50:	Effect concentration 50%
ECL:	Existing Chemicals List (Korea)
EPA:	Environmental Protection Agency (U.S.)
EU:	European Union
GHS:	Global Harmonized System of Classification and Labelling
HMIS:	Hazardous Materials Information System
IARC:	International Agency for Research on Cancer
IATA:	International Air Transport Association
IECSC:	Inventory of Existing Chemical Substances Produced or Imported in China
IPVR:	Occupational Exposure Limit - Time Weighted Average
LD50:	(Lithuania)
MAK:	Lethal Dose 50%
	Federal Republic of Germany Maximum Concentration Values in
mg/kg bw	the Workplace
mg/kg bw/day	Milligram(s) per Kilogram(s) Body Weight
MGMA:	Milligram(s) per Kilogram(s) Body Weight per Day
mm Hg:	Mammalian Cell Gene Mutation Assay
mppcf:	Millimeter(s) of Mercury
MSDS:	Million Particles Per Cubic Foot
MSHA:	Material Safety Data Sheet
NAB:	Mine Safety and Health Administration (U.S.)
NDS:	Threshold Limit Value (Indonesia)
NIOSH:	Threshold Limit Value (Poland)
NOAEC:	National Institute for Occupational Safety and Health (U.S.)
NOAEL:	No-Observed-Adverse-Effect-Concentration
NOEC:	No-Observed-Adverse-Effect-Level
NZloC:	No-Observed-Effect-Concentration
OECD:	New Zealand Inventory of Chemicals
OSHA:	Organisation for Economic Co-operation and Development
PEL:	Occupational Safety and Health Administration (U.S.)
PICCS:	Permissible Exposure Limit
RID:	Philippine Inventory of Chemicals and Chemical Substances
SARA:	Regulations on the International Carriage of Goods by Rail
STEL:	Superfund Amendments and Reauthorization Act (U.S.)
STOT:	Short Term Exposure Limit
TG:	Specific Target Organ Toxicity

TLV:	Testing Guideline
TWA:	Threshold Limit Value
TSCA:	Time Weighted Average
TWA:	Toxic Substances Control Act (U.S.)
TWAEV:	Time Weighted Average
µg/mL	Time Weighted Average Exposure Value
UN:	Microgram(s) per Milliliter
VLA-ED:	United Nations
VLA-ES:	Daily Exposure Values (Spain)
VME:	Short Exposure Values (Spain)
WHMIS:	Exposure Limit Value (France)
	Workplace Hazardous Material Information System (Canada)

PRECAUTIONARY STATEMENTS:	Prevention	Response	Storage	Disposal
	None	None	None	None

HMIS Ratings Health: 1 Flammability: 1 Reactivity: 0

REVISIONS: Revised sections 2, 11, 12, 15, 16 of this MSDS on September 6, 2012 to conform to Regulation (EC) No 1272/2008 and Regulation (EC) No 1907/2006 Standards

PREPARED BY: ARCADIS, using standard references and information provided and directed by.

NOTICE: **CLARCOR requests the users of this product to study this material safety data sheet (MSDS) and become aware of product hazards and safety information. To promote safe use of this product, a user should (1) notify its employees, agents, and contractors of the information on this MSDS and any product hazard and safety information, (2) furnish this same information to each of its customers for the product and (3) request such customers to notify their employees and customers of the product hazards and safety information.**

The opinions expressed herein are those of qualified experts within. We believe that the information contained herein is current as of the date of this MSDS. Since the use of this product is not within the control of, it is the user's obligation to determine the conditions of safe use of this product.