SAFETY DATA SHEET

Classified in accordance 29 CFR 1910.1200

1. Identification

Product identifier: NOVAPOL® Polyethylene

Other means of identification

Common name(s), synonym(s): HDPE, HPLDPE, LDPE, LLDPE, LMDPE, MDPE Polyethylene resins, ethylene polymers

SDS number: NOVA-0029C

Recommended use and restriction on use

Recommended use: Thermoplastic resin extruded into film, sheet or molded into containers and other shapes.

Restrictions on use: All uses other than the identified.

Manufacturer/Importer/Supplier/Distributor Information

Manufacturer

Company Name:	NOVA Chemicals
Address:	P.O. Box 2518, Station M Calgary, Alberta, Canada T2P 5C6
Telephone:	Product Information: 1-412-490-4063
SDS Information Email:	msdsemail@novachem.com

Emergency telephone number:

1-800-561-6682, 1-403-314-8767 (NOVA Chemicals) (24 hours)
1-800-424-9300 (CHEMTREC-USA) (24 hours)

2. Hazard(s) identification

Hazard Classification

OSHA hazard(s)

Combustible dust

Label Elements

Hazard Symbol: No symbol

Signal Word: Warning

Hazard Statement: *If small particles are generated during further processing, handling or by other means,* may form combustible dust concentrations in air.

Precautionary Statements:

Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground and bond container and receiving equipment. Use explosion-proof [electrical/ventilating/lighting] equipment. Wash hands thoroughly after handling. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. [In case of inadequate ventilation] wear respiratory protection.

Response:	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Get medical advice/attention. IF ON SKIN: Wash with plenty of water/soap. If skin irritation occurs: Get medical advice/attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Storage:	Store in accordance with local/regional/national regulations. Protect from sunlight.
Disposal:	Dispose of contents/container in accordance with local/regional/national/international regulations. Refer to manufacturer or supplier for information on recovery or recycling.
Other hazards which do not result in GHS classification:	Spilled product may create a dangerous slipping hazard.

3. Composition/information on ingredients

Mixtures

Composition Comments:	The components are not hazardous or are below required disclosure limits.

4. First-aid measures

Inhalation:	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical advice/attention.
Ingestion:	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Get medical advice/attention.
Skin Contact:	IF ON SKIN: Wash with plenty of water/soap. If skin irritation occurs: Get medical advice/attention.
Eye contact:	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.

Most important symptoms/effects, acute and delayed

Symptoms:	Thermal burns. Respiratory irritation. Mechanical irritation.

Indication of immediate medical attention and special treatment needed

Treatment:	After adequate first aid, no further treatment is required unless symptoms reappear. For more detailed medical emergency support information, call 1-800-561-6682 or 1-403-314-8767 (24 hours, NOVA Chemicals Emergency Response). Burns should be treated as thermal burns. Molten resin will come off as healing occurs; therefore, immediate removal from the skin is not necessary. Treatment should be directed at the control of symptoms and the clinical condition of the patient. No adverse effects due to ingestion are expected.

5. Fire-fighting measures

General Fire Hazards:	Solid resins support combustion but do not meet combustible definition. Product will burn at high temperatures but is not considered flammable. Under fire conditions, product will readily burn and emit irritating smoke. Powdered material may form explosive dust-air mixtures.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:	Water fog or water spray. Small fires: Dry chemical, carbon dioxide (CO2) or foam.
Unsuitable extinguishing media:	Avoid water in straight hose stream; will scatter and spread fire.
Specific hazards arising from the chemical:	Upon heating, polyethylene may emit various oligomers, waxes and oxygenated hydrocarbons as well as carbon dioxide, carbon monoxide and small amounts of other organic vapors (e.g. aldehydes, acrolein). Inhalation of these decomposition products may be hazardous. Powdered material may form explosive dust-air mixtures. Risk of dust-air explosion is increased if flammable vapors are also present. Static discharge: material can accumulate static charges which may cause an incendiary electrical discharge.

Special protective equipment and precautions for firefighters

Special fire fighting procedures:	Keep upwind. Keep unauthorized personnel away. Move containers from fire area if you can do so without risk. Fight fire from maximum distance or use unmanned holders or monitor nozzles. Apply extinguishing media carefully to avoid creating airborne dust. Water may be used to flood the area. Use water spray to cool fire exposed surfaces and to protect personnel. Avoid inhaling any smoke and combustion materials. Remove and isolate contaminated clothing and shoes. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.
Special protective equipment for fire-fighters:	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	Isolate area. Alert stand-by emergency and fire fighting personnel. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.
Methods and material for containment and cleaning up:	Wear appropriate personal protective equipment. Do not touch or walk through spilled material. In case of leakage, eliminate all ignition sources. Stop leak if safe to do so. Prevent entry into waterways, sewer, basements or confined areas. Spilled product may create a dangerous slipping hazard. Use appropriate tools to put the spilled solid in an appropriate disposal or recovery container. Recover and reclaim or recycle, if practical. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).

7. Handling and storage

Precautions for safe handling:	Keep away from uncontrolled heat and incompatible materials. Ground all material handling and transfer equipment. Wash hands thoroughly after handling. Prevent dust accumulation to minimize explosion hazard. For additional information on control of static and minimizing potential dust and fire hazards, refer to NFPA-654, "Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing and Handling of Combustible Particulate Solids, 2013 Edition". Use in a well-ventilated area. Avoid release to the environment. Wear eye protection/protective gloves as needed/wear full face-shield during thermal processing if contact with molten material is possible/wear respirator if dusty. Spilled product may create a dangerous slipping hazard.
Conditions for safe storage,	Store in accordance with all current regulations and standards. Storage

including any incompatibilities:	area should be clearly identified, well-illuminated and clear of obstruction. Store in closed, grounded and properly designed vessels. Keep away from uncontrolled heat and incompatible materials. Protect from sunlight. Outdoor storage of product in bags requires protection from ultra-violet sunlight by use of a UV stabilized bag or alternate means. Avoid accumulation of dust by frequent cleaning and suitable construction of storage and handling areas. Keep shovels and vacuum systems readily available for cleanup of loose material. DO NOT enter filled bulk containers and attempt to walk over product, due to risk of slipping and possible suffocation. Use a fall arrest system when working near open bulk containers.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

During dusty conditions ACGIH recommends for Particles (insoluble or poorly soluble) not otherwise specified a TWA of 10 mg/m3 (inhalable particles), 3 mg/m3 TWA (respirable particles); OSHA recommends for Nuisance particulates a TWA of 15 mg/m3 (total dust), 5 mg/m3 TWA (respirable fraction).

Appropriate Engineering Controls	Engineering methods to reduce hazardous exposure are preferred controls. Methods include mechanical ventilation (dilution and local exhaust) process or personal enclosure, remote and automated operation, control of process conditions, leak detection and repair systems, and other process modifications. Ensure all exhaust ventilation systems are discharged to outdoors, away from air intakes and ignition sources. Supply sufficient replacement air to make up for air removed by exhaust systems. Administrative (procedure) controls and use of personal protective equipment may also be required. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment. Use only appropriately classified electrical equipment and powered industrial trucks.

Individual protection measures, such as personal protective equipment

General information:	Personal protective equipment (PPE) should not be considered a long-term solution to exposure control. Employer programs to properly select, fit, maintain and train employees to use equipment must accompany PPE. Consult a competent industrial hygiene resource, the PPE manufacturer's recommendation, and/or applicable regulations to determine hazard potential and ensure adequate protection.
Eye/face protection:	Safety glasses. Wear a face shield when working with molten material.
Skin Protection Hand Protection:	Wear gloves to protect against thermal burns.
Skin and Body Protection:	Wear appropriate clothing to prevent any possibility of skin contact. Wear work clothes with long sleeves and pants. Safety footwear with good traction is recommended to help prevent slipping. Static Dissipative (SD) rated footwear is also recommended.
Respiratory Protection:	Appropriate NIOSH approved air-purifying respirator or self-contained breathing apparatus should be used. Air supplied breathing apparatus must be used when oxygen concentrations are low or if airborne concentrations exceed the limits of the air-purifying respirators.
Hygiene measures:	Use effective control measures and PPE to maintain worker exposure to

concentrations that are below these limits. Ensure that eyewash stations and safety showers are in close proximity to work locations.

9. Physical and chemical properties

Appearance	
Physical state:	solid
Form:	Pellets or Granular powder
Color:	white / colorless / translucent
Odor:	Minimal, Mild
Odor Threshold:	No data available.
pH:	not applicable
Melting point/freezing point:	105 - 135 °C (221 - 275 °F) (Melting Point) 85 - 127 °C (185 - 261 °F) (Softening point)
Initial boiling point and boiling range:	not applicable
Flash Point:	not applicable
Evaporation rate:	not applicable
Flammability (solid, gas):	May form combustible dust concentrations in air.
Upper/lower limit on flammability or explosive limits	
Flammability Limit - Upper (%):	not applicable
Flammability Limit - Lower (%):	not applicable
Vapor pressure:	not applicable
Vapor density:	not applicable
Density:	905 - 965 kg/m3
Relative density:	0.905 - 0.965
Solubility(ies)	
Solubility in water:	Insoluble in water
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	not applicable
Auto-ignition temperature:	330 - 410 °C (626 - 770 °F)
Decomposition temperature:	> 300 °C (> 572 °F)
Viscosity:	not applicable

10. Stability and reactivity

Reactivity:	Contact with incompatible materials. Sources of ignition. Exposure to heat.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	Hazardous polymerization not likely to occur.
Conditions to avoid:	Avoid exposing to heat and contact with strong oxidizing substances. Avoid processing material over 300 °C (572 °F).
Incompatible Materials:	Strong oxidizing agents. Organic solvents, ether, gasoline, lubricating oils, chlorinated hydrocarbons and aromatic hydrocarbons may react with and degrade polyethylene. Powdered material may form explosive dust-air mixtures. Risk of dust-air explosion is increased if flammable vapors are also present.
Hazardous Decomposition Products:	Upon decomposition, polyethylene may emit various oligomers, waxes and oxygenated hydrocarbons as well as carbon dioxide, carbon monoxide and small amounts of other organic vapors (e.g. aldehydes, acrolein). Inhalation of these decomposition products may be hazardous.

11. Toxicological information

Information on likely routes of exposure

Inhalation:	During processing, thermal fumes and inhalation of fine particles may cause respiratory irritation.
Ingestion:	Ingestion of this product is not a likely route of exposure.
Skin Contact:	During processing, contact with powder or fines may cause mechanical irritation. Molten material will produce thermal burns.
Eye contact:	During processing, contact with powder or fines may cause mechanical irritation. Molten material will produce thermal burns.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation:	Respiratory irritation.
Ingestion:	No adverse effects due to ingestion are expected.
Skin Contact:	Mechanical irritation. Thermal burns. Negligible irritation of the skin based on chemical structure (polymer).
Eye contact:	Mechanical irritation. Thermal burns. May cause mild, short-lasting discomfort to eyes.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: LD50: > 5,000 mg/kg (estimated)

Dermal
Product: Not classified for acute toxicity based on available data.

Inhalation
Product: Not classified for acute toxicity based on available data.

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: No data available.

Serious Eye Damage/Eye Irritation
Product: No data available.

Respiratory or Skin Sensitization
Product: No data available.

Carcinogenicity
Product: Not classified

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):
No carcinogenic components identified

Germ Cell Mutagenicity

In vitro
Product: There are no known or reported genetic effects.

In vivo
Product: There are no known or reported genetic effects.

Reproductive toxicity
Product: There are no known or reported reproductive effects.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard
Product: Not classified.

Other effects: No data available.

12. Ecological information

General information: NOVAPOL® resins are expected to be inert in the environment. They float on water and are not biodegradable. They are not expected to bioconcentrate (accumulate in the food chain) due to their high molecular weight. NOVAPOL® pellets are not expected to be toxic if ingested but may represent a choking hazard if ingested by waterfowl or aquatic life.

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: LC 50 (96 h): > 100 mg/l

Aquatic Invertebrates
Product: EC 50 (Daphnia magna, 48 h): > 100 mg/l

Toxicity to Aquatic Plants
Product: EC 50 (72 h): > 100 mg/l

Chronic hazards to the aquatic environment:

Fish
Product: NOEC : > 100 mg/l

Aquatic Invertebrates
Product: NOEC : > 100 mg/l

Toxicity to Aquatic Plants
Product: NOEC : > 100 mg/l

Persistence and Degradability

Biodegradation
Product: Not readily degradable. Under optimal oxidation conditions, >99% of polyethylene will remain intact after exposure to microbial actions. Product will slowly change (embrittle) in the presence of sunlight, but will not fully breakdown. Product buried in landfill has been found to be stable over time. No toxic degradation products are known to be produced.

BOD/COD Ratio
Product: No data available.

Bioaccumulative potential
Bioconcentration Factor (BCF)
Product: Pellets may accumulate in the digestive systems of birds and aquatic life, causing injury and possible death due to starvation.

Partition Coefficient n-octanol / water (log Kow)
Product: not applicable

Mobility in soil: Biologically persistent. This product has not been found to migrate through soils.

Other adverse effects: Pellets are persistent in aquatic and terrestrial systems.

13. Disposal considerations

Disposal instructions: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal. Preferred disposal methods for polyethylene in order of preference are: 1) clean and reuse if possible, 2) recover and resell through plastic recyclers or resin brokers, 3) incinerate with waste heat recovery and 4) landfill. DO NOT ATTEMPT TO DISPOSE OF BY UNCONTROLLED INCINERATION. Open burning of plastics at landfills should not be undertaken.

Contaminated Packaging: Check local, federal and state environmental regulations prior to disposal.

14. Transport information

DOT
Not regulated.

IATA
Not regulated.

IMDG
Not regulated.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):
None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Combustible dust

US. EPCRA (SARA Title III) Section 304 Extremely Hazardous Substances Reporting Quantities and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substances
None present or none present in regulated quantities.

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required
None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):
None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)
None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65
No ingredient requiring a warning under CA Prop 65.

US. New Jersey Worker and Community Right-to-Know Act
No ingredient regulated by NJ Right-to-Know Law present.

US. Pennsylvania RTK - Hazardous Substances
No ingredient regulated by PA Right-to-Know Law present.

Inventory Status

Canada DSL Inventory List:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory

16. Other information, including date of preparation or last revision

Issue Date:	10/25/2019
Revision Information:	10/25/2019: SDS Update – phrase edits, section 15 updates 02/20/2018: New SDS
Version #:	1.0
Abbreviations and acronyms:	ACGIH = American Conference of Governmental Industrial Hygienists; BOD = Biochemical Oxygen Demand; CAS = Chemical Abstracts Service; CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act; CFR = Code of Federal Regulations; DOT = Department of Transportation; EPA = Environmental Protection Agency; FDA = Food and Drug Administration; GHS = Globally Harmonized System for the Classification and Labelling of Chemicals; IARC = International Agency for Research on Cancer; IATA = International Air Transport Association ICAO = International Civil Aviation Organization; IMDG = International Maritime Dangerous Goods; Kow = Octanol/water partition coefficient; LD50 = Lethal Dose 50%; NJTSR = New Jersey Trade Secret Registry; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; PPE = Personal Protective Equipment; RCRA = Resource Conservation and Recovery Act; SARA = Superfund Amendments and Reauthorization Act; SCBA = Self Contained Breathing Apparatus; SDS = Safety Data Sheet; SEPA = State Environmental Protection Administration; TSCA = Toxic Substances Control Act; TWA = Time Weighted Average
Further Information:	Exposure to the Hazardous Combustion and Decomposition Products as described in the SDS, Sections 5 and 10, may be linked with various acute and chronic health effects. These effects include irritation of eyes and upper respiratory tract primarily from the aldehydes, breathing difficulties, systemic

toxicity such as liver, kidney, and central nervous system effects.

NOVA Chemicals has monitored worker exposures to emissions during commercial-scale processing of polyethylene. Concentrations of hazardous decomposition products were determined to be well below established exposure limits in the workplace. "Quantitation of Employee Exposure to Emission Products Generated By Commercial-Scale Processing of Polyethylene" is available in the Am. Ind. Hyg. Assoc. J. 56:809-814 (1995) and "Quantification of Emission Compounds Generated During Commercial-Scale Processing of Advanced SCLAIRTECH™ Polyethylene" is available in the Journal of Plastic Film & Sheeting Volume 26 Issue 2, April 2010.

For information on ventilation considerations for the control of volatile air contaminants from polyethylene, please request a copy of NOVA Chemicals' publication, "Ventilation Guidelines for Heat-Processing Polyethylene Resins".

For additional information on unloading hopper cars containing plastic resins, refer to NOVA Chemicals' publication, "Hopper Car Unloading Guide".

For information on processing properties, selection of NOVAPOL resin grades, refer to the NOVAPOL Product Data Sheets available on our web site, under Products & Applications: http://www.novachemicals.com.

For additional information on preventing pellet loss, refer to published plastic industry publications and resources under 'Operation Clean Sweep'; now downloadable from the web at http://www.opcleansweep.org/.

Polyethylene fines and dust particles are listed as a Class I combustible dust by the National Fire Protection Association (see NFPA-68, Table F.1 (e)). For additional information on control of static and minimizing potential dust and fire hazards, refer to NFPA-654, "Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing and Handling of Combustible Particulate Solids, 2013 Edition".

Explosivity testing was done on one NOVAPOL® LLDPE, one LDPE and one HDPE resins with Pmax = 4.8-5.7 bar, Kst = 12-17 (bar m/s) and Minimum Ignition Energy (MIE) = 1000-10,000; dust explosion class = St 1; this data was obtained for polyethylene with a final particle size of 100% <250 um and moisture content between 0 and 0.2%. Similar results are expected for the remaining NOVAPOL® polyethylene resin grades.

For NOVAPOL resin grade specific information including food contact compliance statements, please contact your sales representative or refer to NOVA Chemicals' polyethylene Product Data Sheets.

Disclaimer:

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UNLESS SPECIFICALLY AGREED OTHERWISE, NOVA CHEMICALS DOES NOT TAKE RESPONSIBILITY FOR USE, TRANSPORTATION, STORAGE, HANDLING OR DISPOSAL OF THE PRODUCT/MATERIALS DESCRIBED HEREIN.

PROCESS BLUE U 2X

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Issue date: 12/6/2022 Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : PROCESS BLUE U 2X
Product code : LD502609

1.2. Recommended use and restrictions on use

No additional information available

1.3. Supplier

Chroma Color Corporation
3900 W Dayton St.
McHenry, IL 60050-8378
USA
T 877-385-8777
https://chromacolors.com/

1.4. Emergency telephone number

Emergency number : (815) 385-8100
Emergency number

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Not classified

2.2. GHS Label elements, including precautionary statements

GHS US labelling

No labelling applicable

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS-US classification
	CAS-No.: 13463-67-7	≥ 50	Carc. 2, H351

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Wash skin with plenty of water.

First-aid measures after eye contact : Rinse eyes with water as a precaution.

First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

No additional information available

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam.

5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Exercise caution. Spill area may be slippery.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Mechanically recover the product.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

PROCESS BLUE U 2X	
No additional information available	

(13463-67-7)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Titanium dioxide
ACGIH OEL TWA	10 mg/m³
Remark (ACGIH)	TLV® Basis: LRT irr; pneumoconiosis. Notations: A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans)
Regulatory reference	ACGIH 2022
USA - OSHA - Occupational Exposure Limits	
Local name	Titanium dioxide (Total dust)
OSHA PEL TWA [1]	15 mg/m³
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:
Protective gloves
Eye protection:
Safety glasses
Skin and body protection:
Wear suitable protective clothing
Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Colour	:	Mixture contains one or more component(s) which have the following colour(s): Green-blue Pure substance: white Unpurified: coloured
Odour	:	characteristic
Odour threshold	:	No data available
pH	:	No data available
Melting point	:	No data available
Freezing point	:	Not applicable
Boiling point	:	No data available
Flash point	:	Not applicable
Relative evaporation rate (butylacetate=1)	:	No data available
Flammability (solid, gas)	:	Non flammable.
Vapour pressure	:	No data available
Relative vapour density at 20°C	:	No data available
Relative density	:	Not applicable
Solubility	:	No data available
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	No data available
Viscosity, kinematic	:	Not applicable
Viscosity, dynamic	:	No data available
Explosive limits	:	Not applicable
Explosive properties	:	No data available
Oxidising properties	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

On combustion, forms: carbon oxides (CO and CO2).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified (Based on available data, the classification criteria are not met)

Acute toxicity (dermal) : Not classified (Based on available data, the classification criteria are not met)

Acute toxicity (inhalation) : Not classified (Based on available data, the classification criteria are not met)

(13463-67-7)	
LD50 oral rat	> 5000 mg/kg bodyweight (OECD 425: Acute Oral Toxicity: Up-and-Down Procedure, Rat, Female, Experimental value, Oral, 14 day(s))
LC50 Inhalation - Rat	> 6.82 mg/l (Other, 4 h, Rat, Male, Experimental value, Inhalation (dust), 14 day(s))
LC50 Inhalation - Rat (Dust/Mist)	> 3.43 mg/l Source: ECHA

Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met)

(13463-67-7)	
pH	7 (aqueous suspension, 10 %)

Serious eye damage/irritation : Not classified (Based on available data, the classification criteria are not met)

(13463-67-7)	
pH	7 (aqueous suspension, 10 %)

Respiratory or skin sensitisation : Not classified (Based on available data, the classification criteria are not met)

Germ cell mutagenicity : Not classified (Based on available data, the classification criteria are not met)

Carcinogenicity : Not classified (Based on available data, the classification criteria are not met)

(13463-67-7)	
IARC group	2B - Possibly carcinogenic to humans

Reproductive toxicity : Not classified (Based on available data, the classification criteria are not met)

STOT-single exposure : Not classified (Based on available data, the classification criteria are not met)

STOT-repeated exposure : Not classified (Based on available data, the classification criteria are not met)

Aspiration hazard : Not classified
(Based on available data, the classification criteria are not met)

Viscosity, kinematic : Not applicable

(13463-67-7)	
Viscosity, kinematic	Not applicable

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

(13463-67-7)	
LC50 - Fish [1]	> 100 mg/l (Equivalent or similar to OECD 203, 96 h, Oncorhynchus mykiss, Static system, Fresh water, Experimental value, Nominal concentration)
EC50 - Crustacea [1]	19.3 mg/l Test organisms (species): Daphnia magna
EC50 - Crustacea [2]	27.8 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 100 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
ErC50 algae	61 mg/l (EPA 600/9-78-018, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Nominal concentration)
NOEC (chronic)	≥ 2.92 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

12.2. Persistence and degradability

(13463-67-7)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

12.3. Bioaccumulative potential

(13463-67-7)	
Bioaccumulative potential	Not bioaccumulative.

12.4. Mobility in soil

(13463-67-7)	
Ecology - soil	Low potential for mobility in soil.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose in a safe manner in accordance with local/national regulations.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Not applicable
Proper Shipping Name (TDG) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) : Not applicable

TDG

Transport hazard class(es) (TDG) : Not applicable

IMDG

Transport hazard class(es) (IMDG) : Not applicable

IATA

Transport hazard class(es) (IATA) : Not applicable

14.4. Packing group

Packing group (DOT) : Not applicable
Packing group (TDG) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

DOT
No data available

TDG
No data available

IMDG
No data available

IATA
No data available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

International regulations

CANADA

(13463-67-7)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

(13463-67-7)
Listed on IARC (International Agency for Research on Cancer) Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Full text of H-statements	
H351	Suspected of causing cancer.

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SAFETY DATA SHEET

Section 1 - Chemical Product and Company Information

Product Name: BLACK .083% LLDPE PWD Product Code: G39-4002-M

Manufactured By:

General Color, LLC
350 Bridge Street
Minerva, OH 44657

Emergency Phone: 330-868-4161

Section 2 - Hazards Identification

GHS Ratings:

There are no GHS ratings that apply to this product at this time

GHS Hazards

There are no GHS hazards that apply to this product at this time

GHS Precautions

P281	Use personal protective equipment as required
P501	Dispose of contents/container in accordance with Federal, State & Local regulations.

Section 3 - Composition Information on Ingredients

Chemical Name	CAS number	Weight Concentration %
Carbon black	1333-86-4	100.00%

Section 4 - First Aid Measures

Inhalation - If symptoms are experienced, move victim to fresh air.
Eye Contact - Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Skin Contact - In case of skin contact, remove contaminated clothing. Flush the skin with large amounts of water, then wash the skin with soap and water.

Ingestion - Rinse mouth. Obtain medical attention.
Notes to Physician: Treat symptomatically.

Section 5 - Fire Fighting Measures

Flash Point: No Data Available
LEL: UEL:
Flammable Limits: Not applicable.

Extinguishing Media: Water spray, carbon dioxide, dry chemicals, fog

Unusual Fire or Explosion Hazards: No specific fire or explosion hazard.

Hazardous Combustion Products: Avoid creating dust.
Fire Fighting: If evacuation of personnel is necessary, evacuate to an upwind area. Decontaminate personnel and equipment with a water wash-down after fire and smoke exposure.

Fire Fighting Equipment: Firemen and Emergency Responders: Wear full turnout gear or Level A equipment, including positive-pressure, self-contained breathing apparatus (SCBA).

Section 6 - Accidental Release Measures

Spill and Leak Procedures: Spill supervisor - Ensure cleanup personnel wear all appropriate Personal Protective Equipment (PPE), including respiratory protection. Avoid dust formation during clean up. Ensure adequate ventilation.

Dispose of the waste in compliance with all Federal, State, and Local regulations.

Section 7 - Handling and Storage

Handling Precautions: Wear all appropriate Personal Protective Equipment (PPE). Wear respiratory protection and ensure adequate ventilation at all times.

Storage Requirements: Protect containers against physical damage, store in dry area away from feed and food products. Keep containers sealed to avoid contamination.
Regulatory Requirements: No additional information available.

Section 8 - Exposure Controls / Personal Protection

Chemical Name / CAS No.	OSHA Exposure Limits	ACGIH Exposure Limits	Other Exposure Limits
Carbon black 1333-86-4	3.5 mg/m3 TWA	3 mg/m3 TWA (inhalable particulate matter)	NIOSH: 3.5 mg/m3 TWA; 0.1 mg/m3 TWA (Carbon black in presence of Polycyclic aromatic hydrocarbons, as PAH)

Engineering: Ensure adequate ventilation.

Ventilation: Ensure adequate ventilation.

Administrative Controls: No data found.
Respiratory Protection: Wear approved mask.

Protective Gloves: Wear protective gloves.

Eye Protection: Wear chemical goggles or safety glasses.

Other Information: When using, do not eat, drink or smoke.
Contaminated Gear: Dispose of the waste in compliance with all Federal, State, Regional, and Local regulations.

Section 9 - Physical and Chemical Properties

This mixture typically exhibits the following properties under normal circumstances:

Appearance: Color	**Odor:** Slight
Vapor Pressure: N/A	**Odor threshold:** Not Available
Vapor Density: N/A	**pH:** Not Available
Specific Gravity: 1.00	**Melting point:** Not Available
Freezing point: Not Available	**Solubility:** Not Available
Boiling range: N/A	**Flash point:** No Data Available
Evaporation rate: Not Available	**Flammability:** Not Available
Explosive Limits: N/A	**Partition coefficient (n-octanol/water):** Not Available
Autoignition temperature: N/A	**Decomposition temperature:** Not Available
Viscosity: Not Available	**Lbs VOC/Gallon Less Water** 0.00

Section 10 - Stability and Reactivity

Stability:
UNSTABLE

Hazardous polymerization will not occur.

Section 11 - Toxicological Information

Mixture Toxicity
Component Toxicity

1333-86-4	Carbon black
	Inhalation LC50: 5 mg/m3 (Rat)

Specific Target Organ Toxicity: No specific data.

Eyes Respiratory System

Effects of Overexposure

Carcinogenicity: Not classified.

CAS Number	Description	% Weight	Carcinogen Rating

1333-86-4	Carbon black	100%	Carbon black: NIOSH: potential occupational carcinogen IARC: Possible human carcinogen OSHA: listed

Acute Toxicity: Not classified.

No known significant effects or critical hazards.
Short Term Exposure Immediate or Delayed Effects: No specific data.

Long Term Exposure Immediate or Delayed Effects: No specific data.

Section 12 - Ecological Information

Ecological Information: No additional information available.

Component Ecotoxicity

Section 13 - Disposal Considerations

Disposal must be in accordance with Federal, State, and Local regulations.

Section 14 - Transport Information

Agency	Proper Shipping Name	UN Number	Packing Group	Hazard Class
DOT	Not Regulated	None	None	None

Section 15 - Regulatory Information

Country	Regulation	All Components Listed
USA	TSCA	Yes

Section 16 - Other Information

For Manufacturing Use Only.

This information is believed to be accurate at the time of preparation; however it is not guaranteed to be so and no liability is assumed by General Color, LLC regarding its use.

Reviewer Revision

Date Prepared: 12/7/2022

FR GRAY

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Issue date: 12/12/2022 Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form	:	Mixture
Product name	:	FR GRAY
Product code	:	LC-8565 BKN

1.2. Recommended use and restrictions on use

No additional information available

1.3. Supplier

Chroma Color Corporation
3900 W Dayton St.
McHenry, IL 60050-8378
USA
T 877-385-8777
https://chromacolors.com/

1.4. Emergency telephone number

Emergency number	:	(815) 385-8100 Emergency number

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Carcinogenicity, Category 2	H351	Suspected of causing cancer.

Full text of H-statements: see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labelling

Hazard pictograms (GHS US) :

Signal word (GHS US)	:	Warning
Hazard statements (GHS US)	:	H351 - Suspected of causing cancer.
Precautionary statements (GHS US)	:	P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P308+P313 - If exposed or concerned: Get medical advice/attention. P405 - Store locked up. P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS-US classification
Titanium Dioxide	CAS-No.: 13463-67-7	5 – 25	Carc. 2, H351
	CAS-No.: 1333-86-4	< 5	Carc. 2, H351

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash skin with plenty of water.
First-aid measures after eye contact : Rinse eyes with water as a precaution.
First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

No additional information available

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam.

5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Exercise caution. Spill area may be slippery.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Mechanically recover the product. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

FR GRAY	
No additional information available	

(1333-86-4)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Carbon black
ACGIH OEL TWA	3 mg/m³ (Inhalable fraction)
Remark (ACGIH)	TLV® Basis: Bronchitis. Notations: A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans)
Regulatory reference	ACGIH 2021
USA - OSHA - Occupational Exposure Limits	
Local name	Carbon black
OSHA PEL TWA [1]	3.5 mg/m³
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

Titanium Dioxide (13463-67-7)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Titanium dioxide

Titanium Dioxide (13463-67-7)	
ACGIH OEL TWA	10 mg/m³
Remark (ACGIH)	TLV® Basis: LRT irr. Notations: A4 (Not classifiable as a Human Carcinogen)
Regulatory reference	ACGIH 2021
USA - OSHA - Occupational Exposure Limits	
Local name	Titanium dioxide (Total dust)
OSHA PEL TWA [1]	15 mg/m³
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:
Protective gloves
Eye protection:
Safety glasses
Skin and body protection:
Wear suitable protective clothing
Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid
Colour : Mixture contains one or more component(s) which have the following colour(s):
Dark grey to black Green Colourless Pure substance: white Unpurified: coloured
Odour : characteristic
Odour threshold : No data available
pH : No data available
Melting point : No data available
Freezing point : Not applicable
Boiling point : No data available
Flash point : Not applicable
Relative evaporation rate (butylacetate=1) : No data available
Flammability (solid, gas) : Non flammable.
Vapour pressure : No data available
Relative vapour density at 20°C : No data available

Relative density	:	Not applicable
Solubility	:	No data available
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	No data available
Viscosity, kinematic	:	Not applicable
Viscosity, dynamic	:	No data available
Explosive limits	:	Not applicable
Explosive properties	:	No data available
Oxidising properties	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

On combustion, forms: carbon oxides (CO and CO2).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	:	Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal)	:	Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation)	:	Not classified (Based on available data, the classification criteria are not met)

(1333-86-4)	
LD50 oral rat	> 10000 mg/kg (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 28 day(s))
LD50 dermal rabbit	> 8000 mg/kg Source: ECHA
LC50 Inhalation - Rat	> 4.6 mg/l air (Equivalent or similar to OECD 403, 4 h, Rat, Experimental value, Inhalation (dust))

Titanium Dioxide (13463-67-7)	
LD50 oral rat	> 2000 mg/kg bodyweight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral, 14 day(s))

Titanium Dioxide (13463-67-7)	
LC50 Inhalation - Rat	> 5.09 mg/l (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male, Experimental value, Inhalation (dust), 14 day(s))
LC50 Inhalation - Rat (Dust/Mist)	> 3.43 mg/l Source: ECHA

Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met)

(1333-86-4)	
pH	4 – 11 (5 %, 20 °C)

Titanium Dioxide (13463-67-7)	
pH	7 (aqueous suspension, 10 %)

Serious eye damage/irritation : Not classified (Based on available data, the classification criteria are not met)

(1333-86-4)	
pH	4 – 11 (5 %, 20 °C)

Titanium Dioxide (13463-67-7)	
pH	7 (aqueous suspension, 10 %)

Respiratory or skin sensitisation : Not classified (Based on available data, the classification criteria are not met)

Germ cell mutagenicity : Not classified (Based on available data, the classification criteria are not met)

Carcinogenicity : Suspected of causing cancer. (Based on available data, the classification criteria are not met)

(1333-86-4)	
IARC group	2B - Possibly carcinogenic to humans

Titanium Dioxide (13463-67-7)	
IARC group	2B - Possibly carcinogenic to humans

Reproductive toxicity : Not classified (Based on available data, the classification criteria are not met)

STOT-single exposure : Not classified (Based on available data, the classification criteria are not met)

STOT-repeated exposure : Not classified (Based on available data, the classification criteria are not met)

(1333-86-4)	
LOAEC (inhalation, rat,dust/mist/fume, 90 days)	0.0071 mg/l air Animal: rat, Animal sex: male, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)
NOAEC (inhalation, rat, dust/mist/fume, 90 days)	0.0011 mg/l air Animal: rat, Animal sex: male, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)

Aspiration hazard : Not classified
(Based on available data, the classification criteria are not met)

Viscosity, kinematic : Not applicable

(1333-86-4)	
Viscosity, kinematic	No data available (test not performed)

Titanium Dioxide (13463-67-7)	
Viscosity, kinematic	Not applicable (solid)

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

(1333-86-4)	
LC50 - Fish [1]	> 1000 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Danio rerio, Semi-static system, Fresh water, Experimental value, Lethal)
EC50 - Crustacea [1]	> 5600 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 24 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
EC50 72h - Algae [1]	> 10000 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
ErC50 algae	> 10000 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, Nominal concentration)

Titanium Dioxide (13463-67-7)	
LC50 - Fish [1]	> 1000 mg/l (Pisces, Fresh water)
EC50 - Crustacea [1]	> 1000 mg/l (Invertebrata, Fresh water)
EC50 - Crustacea [2]	27.8 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 100 mg/l (OECD 201: Alga, Growth Inhibition Test, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Growth rate)
ErC50 algae	61 mg/l (EPA 600/9-78-018, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Nominal concentration)
NOEC (chronic)	≥ 2.92 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

12.2. Persistence and degradability

(1333-86-4)	
Persistence and degradability	Biodegradability in soil: not applicable. Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

Titanium Dioxide (13463-67-7)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

12.3. Bioaccumulative potential

(1333-86-4)	
Bioaccumulative potential	Not bioaccumulative.

Titanium Dioxide (13463-67-7)	
Bioaccumulative potential	Not bioaccumulative.

12.4. Mobility in soil

(1333-86-4)	
Surface tension	Not applicable (solid)
Ecology - soil	No (test)data on mobility of the substance available. Not toxic to plants. Not toxic to animals.

Titanium Dioxide (13463-67-7)	
Surface tension	No data available in the literature
Ecology - soil	Low potential for mobility in soil.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose in a safe manner in accordance with local/national regulations.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Not applicable
Proper Shipping Name (TDG) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable

14.3. Transport hazard class(es)

DOT
Transport hazard class(es) (DOT) : Not applicable

TDG
Transport hazard class(es) (TDG) : Not applicable

IMDG
Transport hazard class(es) (IMDG) : Not applicable

IATA
Transport hazard class(es) (IATA) : Not applicable

14.4. Packing group

Packing group (DOT) : Not applicable
Packing group (TDG) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

DOT
No data available

TDG
No data available

IMDG
No data available

IATA
No data available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

International regulations

CANADA

(1333-86-4)

Listed on the Canadian DSL (Domestic Substances List)

Titanium Dioxide (13463-67-7)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

(1333-86-4)

Listed on IARC (International Agency for Research on Cancer)
Listed on INSQ (Mexican National Inventory of Chemical Substances)

Titanium Dioxide (13463-67-7)

Listed on IARC (International Agency for Research on Cancer)
Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Full text of H-statements	
H351	Suspected of causing cancer.

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

GREEN

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Issue date: 12/12/2022 Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : GREEN
Product code : LD63551

1.2. Recommended use and restrictions on use

No additional information available

1.3. Supplier

Chroma Color Corporation
3900 W Dayton St.
McHenry, IL 60050-8378
USA
T 877-385-8777
https://chromacolors.com/

1.4. Emergency telephone number

Emergency number : (815) 385-8100
Emergency number

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Not classified

2.2. GHS Label elements, including precautionary statements

GHS US labelling

No labelling applicable

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS-US classification
Cadmium and its compounds	CAS-No.: 7440-43-9	7.4 – 11.1	Carc. 1A, H350

Name	Product identifier	%	GHS-US classification
selenium	CAS-No.: 7782-49-2	1.85 – 3.7	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Inhalation), H331 STOT RE 1, H372
Titanium Dioxide	CAS-No.: 13463-67-7	< 5	Carc. 2, H351

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash skin with plenty of water.
First-aid measures after eye contact : Rinse eyes with water as a precaution.
First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

No additional information available

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam.

5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Exercise caution. Spill area may be slippery.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Mechanically recover the product.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

GREEN	
No additional information available	

Titanium Dioxide (13463-67-7)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Titanium dioxide
ACGIH OEL TWA	10 mg/m³
Remark (ACGIH)	TLV® Basis: LRT irr. Notations: A4 (Not classifiable as a Human Carcinogen)
Regulatory reference	ACGIH 2021
USA - OSHA - Occupational Exposure Limits	
Local name	Titanium dioxide (Total dust)
OSHA PEL TWA [1]	15 mg/m³
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

Cadmium and its compounds (7440-43-9)
No additional information available

selenium (7782-49-2)
No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:
Protective gloves

Eye protection:
Safety glasses

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Colour	:	Mixture contains one or more component(s) which have the following colour(s): Dark grey to black Green-blue Pure substance: white Unpurified: coloured
Odour	:	characteristic
Odour threshold	:	No data available
pH	:	No data available
Melting point	:	No data available
Freezing point	:	Not applicable
Boiling point	:	No data available
Flash point	:	Not applicable
Relative evaporation rate (butylacetate=1)	:	No data available
Flammability (solid, gas)	:	Non flammable.
Vapour pressure	:	No data available
Relative vapour density at 20°C	:	No data available
Relative density	:	Not applicable
Solubility	:	No data available
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	No data available
Viscosity, kinematic	:	Not applicable
Viscosity, dynamic	:	No data available
Explosive limits	:	Not applicable
Explosive properties	:	No data available
Oxidising properties	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

On combustion, forms: carbon oxides (CO and CO2).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal) : Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation) : Not classified (Based on available data, the classification criteria are not met)

Titanium Dioxide (13463-67-7)	
LD50 oral rat	> 2000 mg/kg bodyweight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral, 14 day(s))
LC50 Inhalation - Rat	> 5.09 mg/l (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male, Experimental value, Inhalation (dust), 14 day(s))
LC50 Inhalation - Rat (Dust/Mist)	> 3.43 mg/l Source: ECHA

selenium (7782-49-2)	
ATE US (oral)	100 mg/kg bodyweight
ATE US (gases)	700 ppmv/4h
ATE US (vapours)	3 mg/l/4h
ATE US (dust,mist)	0.5 mg/l/4h

Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met)

Titanium Dioxide (13463-67-7)	
pH	7 (aqueous suspension, 10 %)

Serious eye damage/irritation : Not classified (Based on available data, the classification criteria are not met)

Titanium Dioxide (13463-67-7)	
pH	7 (aqueous suspension, 10 %)

Respiratory or skin sensitisation : Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity : Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity : Not classified (Based on available data, the classification criteria are not met)

Titanium Dioxide (13463-67-7)	
IARC group	2B - Possibly carcinogenic to humans

Cadmium and its compounds (7440-43-9)	
IARC group	1 - Carcinogenic to humans
National Toxicity Program (NTP) Status	Known Human Carcinogens

selenium (7782-49-2)	
IARC group	3 - Not classifiable

Reproductive toxicity : Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure : Not classified (Based on available data, the classification criteria are not met)
STOT-repeated exposure : Not classified (Based on available data, the classification criteria are not met)

selenium (7782-49-2)	
NOAEL (oral, rat, 90 days)	0.4 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified
(Based on available data, the classification criteria are not met)
Viscosity, kinematic : Not applicable

Titanium Dioxide (13463-67-7)	
Viscosity, kinematic	Not applicable (solid)

Cadmium and its compounds (7440-43-9)	
Viscosity, kinematic	Not applicable

selenium (7782-49-2)	
Viscosity, kinematic	Not applicable

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Titanium Dioxide (13463-67-7)	
LC50 - Fish [1]	> 1000 mg/l (Pisces, Fresh water)
EC50 - Crustacea [1]	> 1000 mg/l (Invertebrata, Fresh water)
EC50 - Crustacea [2]	27.8 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 100 mg/l (OECD 201: Alga, Growth Inhibition Test, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Growth rate)
ErC50 algae	61 mg/l (EPA 600/9-78-018, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Nominal concentration)
NOEC (chronic)	≥ 2.92 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

selenium (7782-49-2)	
EC50 - Crustacea [1]	> 160.3 µg/l Test organisms (species): Daphnia magna
NOEC (chronic)	≥ 100 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	≥ 10 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri) Duration: '28 d'

12.2. Persistence and degradability

Titanium Dioxide (13463-67-7)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

12.3. Bioaccumulative potential

Titanium Dioxide (13463-67-7)	
Bioaccumulative potential	Not bioaccumulative.

12.4. Mobility in soil

Titanium Dioxide (13463-67-7)	
Surface tension	No data available in the literature
Ecology - soil	Low potential for mobility in soil.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose in a safe manner in accordance with local/national regulations.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Not applicable
Proper Shipping Name (TDG) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable

14.3. Transport hazard class(es)

DOT
Transport hazard class(es) (DOT) : Not applicable

TDG
Transport hazard class(es) (TDG) : Not applicable

IMDG
Transport hazard class(es) (IMDG) : Not applicable

IATA
Transport hazard class(es) (IATA) : Not applicable

14.4. Packing group

Packing group (DOT) : Not applicable
Packing group (TDG) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

DOT
No data available

TDG
No data available

IMDG
No data available

IATA
No data available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.		
Cadmium and its compounds	CAS-No. 7440-43-9	7.4 – 11.1%
selenium	CAS-No. 7782-49-2	1.85 – 3.7%

Cadmium and its compounds (7440-43-9)	
CERCLA RQ	10 lb

selenium (7782-49-2)	
CERCLA RQ	100 lb

International regulations

CANADA

Titanium Dioxide (13463-67-7)
Listed on the Canadian DSL (Domestic Substances List)

Cadmium and its compounds (7440-43-9)
Listed on the Canadian DSL (Domestic Substances List)

selenium (7782-49-2)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

Titanium Dioxide (13463-67-7)
Listed on IARC (International Agency for Research on Cancer) Listed on INSQ (Mexican National Inventory of Chemical Substances)

Cadmium and its compounds (7440-43-9)
Listed on IARC (International Agency for Research on Cancer) Listed as carcinogen on NTP (National Toxicology Program) Listed on INSQ (Mexican National Inventory of Chemical Substances)

selenium (7782-49-2)
Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. US State regulations

⚠ **WARNING:** This product can expose you to Carbon black (airborne, unbound particles of respirable size), which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Full text of H-statements	
H301	Toxic if swallowed.
H331	Toxic if inhaled.
H350	May cause cancer.
H351	Suspected of causing cancer.
H372	Causes damage to organs through prolonged or repeated exposure.

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.