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SAFETY DATA SHEET

XRU-2596 FEP NP3180 CC HIGH STR GREEN

Section 1. Identification		
GHS product identifier Chemical name CAS number Other means of identification Product type	::	XRU-2596 FEP NP3180 CC HIGH STR GREEN Mixture Mixture CC10280965 solid
<u>Relevant identified uses of the subs</u> Product use	tance :	or mixture and uses advised against Industrial applications. Plastics.
Supplier's details	:	Colorant Chromatics Chromatics, Inc. 19 Francis J. Clarke Circle, Bethel, CT 06801, USA
Emergency telephone number (with hours of operation)	:	+1 800 242 2296 CHEMTREC 1-800-424-9300 (24hrs for spill, leak, fire, exposure or accident).

Section 2. Hazards identification

This mixture has not been evaluated as a whole. Information provided on the health effects of this product is based on individual components. Fluoropolymers heated above 350 C can evolve hydrogen fluoride and carbonyl fluoride as degradation products. Processing at elevated temperatures may release fumes that can cause polymer fume fever. The end-user (fabricator) should take necessary precautions (mechanical ventilation, local exhaust, respiratory protection, etc.) to protect employees from exposure to any vapors or dusts that may be released during heating or fabrication. See Sections 8 and 11 for special precautions. After handling, always wash hands thoroughly with soap and water.

OSHA/HCS status	:	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
Classification of the substance or mixture	:	Not classified.

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GHS label elements		
Signal word	:	No signal word.
Hazard statements	:	No known significant effects or critical hazards.
Precautionary statements		
General	:	Not applicable.
Prevention	:	Not applicable.
Response	:	Not applicable.
Storage	:	Not applicable.
Disposal	:	Not applicable.
Supplemental label elements	:	None known.
Hazards not otherwise classified	:	None known.

Section 3. Composition/information on ingredients

Substance/mixture	:	Mixture
Chemical name	:	Mixture
Other means of identification	:	CC10280965

CAS number/other identifiers

Ingredient name	%	CAS number
Cobalt titanate green spinel (Ni $> 0.1\%$)	10 - 25	68186-85-6
Titanium dioxide	0.3 - 1	13463-67-7

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures



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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.
Inhalation	:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Skin contact	:	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Ingestion	:	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects		
Eye contact Inhalation	:	No known significant effects or critical hazards. No known significant effects or critical hazards.
Skin contact	:	No known significant effects or critical hazards.
Ingestion	:	No known significant effects or critical hazards.
Over-exposure signs/symptoms		
Eye contact	:	No specific data.
Inhalation	:	No specific data.
Skin contact	:	No specific data.
Ingestion	:	No specific data.
Indication of immediate medical attention and special treatment needed, if necessary		
Notes to physician	:	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Specific treatments	:	No specific treatment.
Protection of first-aiders	:	No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Firefighting measures

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Extinguishing media

Suitable extinguishing media Unsuitable extinguishing media	:	In case of fire, use water spray (fog), foam, dry chemical or CO_2 . None known.
Specific hazards arising from the chemical	:	No specific fire or explosion hazard.
Hazardous thermal decomposition products	:	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides halogenated compounds metal oxide/oxides
Special protective actions for fire- fighters	:	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for fire-fighters	:	Fire-fighters should wear appropriate protective equipment and self- contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : For emergency responders :	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment. If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Environmental precautions :	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill :	Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
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Large spill

Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures Advice on general occupational hygiene	:	Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Conditions for safe storage, including any incompatibilities	:	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Titanium dioxide	OSHA PEL 1989 (1989-03-01) TWA 10 mg/m3 Form: Total dust OSHA PEL (1993-06-30) TWA 15 mg/m3 Form: Total dust ACGIH TLV (1996-05-18) TWA 10 mg/m3
Cobalt titanate green spinel (Ni > 0.1%)	OSHA PEL (1993-06-30) TWA 1 mg/m3 (as Ni) OSHA PEL 1989 (1989-03-01)



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		TWA 1 mg/m3 (as Ni) ACGIH TLV (1994-09-01) TWA 0.02 mg/m3 (as Co)
Appropriate engineering controls	:	Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
Environmental exposure controls	:	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.
Individual protection measures		
Hygiene measures	:	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/face protection	:	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
Skin protection		
Hand protection	:	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Body protection	:	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Other skin protection	:	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	:	Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

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Appearance

Physical state	:	solid [Pellets.]
Color	:	GREEN
Odor	:	Not available.
Odor threshold	:	Not available.
рН	:	Not available.
Melting point	:	Not available.
Boiling point	:	Not available.
Flash point	:	Not available.
Burning time	:	Not available.
Burning rate	:	Not available.
Evaporation rate	:	Not available.
Flammability (solid, gas)	:	Not available.
Lower and upper explosive	:	Lower: Not available.
(flammable) limits		Upper: Not available.
Vapor pressure	:	Not available.
Vapor density	:	Not available.
Relative density	:	Not available.
Solubility	:	Not available.
Solubility in water	:	Not available.
Partition coefficient: n-	:	Not available.
octanol/water		
Auto-ignition temperature	:	Not available.
Decomposition temperature	:	Not available.
Decomposition temperature SADT	:	Not available. Not available.
	:	

Section 10. Stability and reactivity

Reactivity	:	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	:	Stable under recommended storage and handling conditions (see Section 7).
Possibility of hazardous reactions	:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	:	Keep away from extreme heat and oxidizing agents.
Incompatible materials	:	Keep away from strong acids. Oxidizer.
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

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This mixture has not been evaluated as a whole for health effects. Exposure effects listed are based on existing health data for the individual components which comprise the mixture.

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result Species		Dose	Exposure	
Titanium dioxide					
Remarks - Oral:	No applicable toxicity data				
	LC50 Inhalation	Rat - Male	6.82 Mg/l	4 h	
	LD50 Dermal	Rabbit	> 5,000 mg/kg	-	
Cobalt titanate green spinel (Ni $> 0.1\%$)					
Remarks - Oral:	No applicable toxicity data				
Remarks - Inhalation:	No applicable toxicity data				
Remarks - Dermal:	No applicable toxicity data				
Conclusion/Summary	: Mixture.Not fully tested.				

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Titanium dioxide	Skin - Mild	Human		72 hrs	-
	irritant				
Conclusion/Summary					
Skin	: M	lixture.Not full	y tested.		
Eyes	: M	lixture.Not full	y tested.		
Respiratory	: M	lixture.Not full	y tested.		
Sensitization					
Conclusion/Summary					
Skin		lixture.Not full	•		
Respiratory	: M	lixture.Not full	y tested.		
Mutagenicity					
Conclusion/Summary	: M	lixture.Not full	y tested.		
Carcinogenicity					
Conclusion/Summary Classification	: M	lixture.Not full	y tested.		
Product/ingredient name	OSHA	IARC	NTP		

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		-	
Titanium dioxide		2B	
Cobalt titanate green			
spinel (Ni > 0.1%)			
<u>Reproductive toxicity</u>			
Conclusion/Summary	: 1	Aixture.Not fully	ested.
Teratogenicity			
Conclusion/Summary	: N	Aixture.Not fully	ested.
Specific target organ toxicity Not available.	(single expos	<u>ure)</u>	
Specific target organ toxicity Not available.	(repeated exp	<u>oosure)</u>	
Aspiration hazard Not available.			
Information on likely routes of exposure	of : N	Not available.	
Potential acute health effects			
Eye contact	: 1	No known signific	ant effects or critical hazards.
Inhalation			ant effects or critical hazards.
Skin contact	: 1	No known signific	ant effects or critical hazards.
Ingestion	: 1	No known signific	ant effects or critical hazards.
Symptoms related to the phys	ical, chemical	and toxicologica	l characteristics
Eye contact	: N	lo specific data.	
Inhalation		No specific data.	
Skin contact		No specific data.	
Ingestion		lo specific data.	
Delayed and immediate effect	s as well as cl	aronic effects from	n short and long-term exposure
Short term exposure			
Potential immediate effects Potential delayed effects		Vot available. Vot available.	
Long term exposure			

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Potential immediate effects	:	Not available.
Potential delayed effects	:	Not available.
Potential chronic health effects		
Conclusion/Summary	:	Mixture.Not fully tested.
General	:	No known significant effects or critical hazards.
Carcinogenicity	:	No known significant effects or critical hazards.
Mutagenicity	:	No known significant effects or critical hazards.
Teratogenicity	:	No known significant effects or critical hazards.
Developmental effects	:	No known significant effects or critical hazards.
Fertility effects	:	No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Species Exposure	Result	Product/ingredient name
		Titanium dioxide
e Fish - Fish 96 h	Acute LC50 > 1,000 Mg/l Marine water	
	Acute	Remarks - Acute - Fish:
Aquatic invertebrates. 48 h Crustaceans	Acute LC50 3 Mg/l Fresh water	
	Acute	Remarks - Acute - Aquatic invertebrates.:
r Aquatic invertebrates. 48 h Daphnia	Acute LC50 6.5 Mg/l Fresh water	
	Acute	Remarks - Acute - Aquatic invertebrates.:
	No applicable toxicity data	Remarks - Acute - Aquatic plants:
	No applicable toxicity data	Remarks - Chronic - Fish:
	No applicable toxicity data	Remarks - Chronic - Aquatic invertebrates.:
	10/15	Aquatic invertebrates.:



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Cobalt titanate green spinel (Ni	> 0.1%)		
Remarks - Acute - Fish:	No applicable toxicity data		
Remarks - Acute - Aquatic	No applicable toxicity data		
invertebrates.:			
Remarks - Acute - Aquatic	No applicable toxicity data		
plants:			
Remarks - Chronic - Fish:	No applicable toxicity data		
Remarks - Chronic -	No applicable toxicity data		
Aquatic invertebrates.:			
XRU-2596 FEP NP3180 CC H			
Remarks - Acute - Aquatic	Chemicals are not readily available as they are bound within the polymer matrix.		
invertebrates.:			
Conclusion/Summary	: Chemicals are not readily available as they are bound within the		
	polymer matrix.		
Persistence and degradability			
Conclusion/Summary	: Chemicals are not readily available as they are bound within the polymer matrix.		
Conclusion/Summary	: Chemicals are not readily available as they are bound within the polymer matrix.		
Bioaccumulative potential Not available.			
<u>Mobility in soil</u>			
Soil/water partition coefficies (KOC)	nt : Not available.		
Other adverse effects	: No known significant effects or critical hazards.		

Section 13. Disposal considerations

pos sho pro auti pro disp requ	generation of waste should be avoided or minimized wherever sible. Disposal of this product, solutions and any by-products ald at all times comply with the requirements of environmental ection and waste disposal legislation and any regional local tority requirements. Dispose of surplus and non-recyclable lucts via a licensed waste disposal contractor. Waste should not be osed of untreated to the sewer unless fully compliant with the hirements of all authorities with jurisdiction. Waste packaging ald be recycled. Incineration or landfill should only be considered
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when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

United States - RCRA Acute hazardous waste "P" List: Not listed

United States - RCRA Toxic hazardous waste "U" List: Not listed

Section 14. Transport information

U.S.DOT 49CFR Ground/Air/Water	:	Not regulated for transportation.
International Air ICAO/IATA	:	Consult mode specific transport rules
International Water IMO/IMDG	:	Consult mode specific transport rules

Section 15. Regulatory information

U.S. Federal regulations	 United States - TSCA 12(b) - Chemical export notification: None of the components are listed. United States - TSCA 4(a) - Final Test Rules: Not listed United States - TSCA 4(a) - ITC Priority list: Not listed United States - TSCA 4(a) - Proposed test rules: Not listed United States - TSCA 4(f) - Priority risk review: Not listed United States - TSCA 4(f) - Priority risk review: Not listed United States - TSCA 5(a)2 - Final significant new use rules: Not listed United States - TSCA 5(a)2 - Proposed significant new use rules: Not listed United States - TSCA 5(e) - Substances consent order: Not listed United States - TSCA 6 - Final risk management: Not listed United States - TSCA 8(a) - Chemical risk rules: Not listed United States - TSCA 8(a) - Dioxin/Furane precusor: Not listed United States - TSCA 8(a) - Chemical Data Reporting (CDR): Not determined United States - TSCA 8(a) - Preliminary assessment report (PAIR): Not listed United States - TSCA 8(c) - Significant adverse reaction (SAR): Not listed
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United States - TSCA 8(d) - Health and safety studies: Not listed United States - EPA Clean water act (CWA) section 307 - Priority pollutants: Listed Cobalt titanate green spinel (Ni > 0.1%)

United States - EPA Clean water act (CWA) section 311 -Hazardous substances: Not listed United States - EPA Clean air act (CAA) section 112 - Accidental release prevention - Flammable substances: Not listed United States - EPA Clean air act (CAA) section 112 - Accidental release prevention - Toxic substances: Not listed United States - Department of commerce - Precursor chemical: Not listed

Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)	:	Listed
Clean Air Act Section 602 Class I	:	Not listed
Substances		
Clean Air Act Section 602 Class II	:	Not listed
Substances		
DEA List I Chemicals (Precursor	:	Not listed
Chemicals)		
DEA List II Chemicals (Essential	:	Not listed
Chemicals)		

US. EPA CERCLA Hazardous Substances (40 CFR 302)

not applicable

SARA 311/312

Classification

Not applicable.

:

Composition/information on ingredients

Name	%	Classification
Titanium dioxide	0.3 - 1	СН
Cobalt titanate green spinel (Ni > 0.1%)	10 - 25	СН

SARA 313

	Product name	CAS number	%	
Form R - Reporting	Cobalt titanate green spinel	68186-85-6	10 - 25	
requirements	(Ni > 0.1%)			
Supplier notification	Cobalt titanate green spinel	68186-85-6	10 - 25	
(Ni > 0.1%)				
SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall				

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include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations		
Massachusetts	:	None of the components are listed.
New York	:	None of the components are listed.
New Jersey	:	The following components are listed:
Pennsylvania	:	Cobalt titanate green spinel (Ni > 0.1%) Titanium dioxide The following components are listed:
		Cobalt titanate green spinel (Ni $> 0.1\%$)
		Titanium dioxide

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

United States inventory (TSCA 8b)	:	All components are listed or exempted.
Canada inventory	:	All components are listed or exempted.
International regulations		
Inventory list		
Australia Canada China Europe inventory Japan New Zealand Philippings		All components are listed or exempted. All components are listed or exempted.
Philippines Republic of Korea Taiwan Turkey United States	:	All components are listed or exempted. All components are listed or exempted. All components are listed or exempted. Not determined. All components are listed or exempted.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	/	0
Flammability		0
Physical hazards		0
		14/15

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Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual. History

<u>History</u>		
Date of printing	:	11/27/2018
Date of issue/Date of revision	:	10/10/2018
Date of previous issue	:	00/00/0000
Version	:	1.0
Key to abbreviations	:	ATE = Acute Toxicity Estimate
·		BCF = Bioconcentration Factor
		GHS = Globally Harmonized System of Classification and Labelling of
		Chemicals
		IATA = International Air Transport Association
		IBC = Intermediate Bulk Container
		IMDG = International Maritime Dangerous Goods
		LogPow = logarithm of the octanol/water partition coefficient
		MARPOL = International Convention for the Prevention of Pollution From
		Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine
		pollution)
		UN = United Nations
References	:	Not available.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the abovenamed supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. Particularly this information may not be valid for such material used in conjunction with any other materials or in any process, unless specified in the text.