

Version Number 1.0 Revision Date 04/28/2022 Page 1 of 15 Print Date 04/29/2022

SAFETY DATA SHEET

XRU-2887 PVDF SUPER STR WHITE

Section 1. Identification		
GHS product identifier Chemical name CAS number Other means of identification Product type	: : : : : : : : : : : : : : : : : : : :	XRU-2887 PVDF SUPER STR WHITE Mixture Mixture CC10357352 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
		+1 800 242 2296
Emergency telephone number (with hours of operation)	:	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.



Version Number 1.0 Revision Date 04/28/2022 Page 2 of 15 Print Date 04/29/2022

GHS label elements		
Signal word	:	No signal word.
Hazard statements	:	No known significant effects or critical hazards.
Precautionary statements		
	:	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.
		Not available.

Section 3. Composition/information on ingredients

Substance/mixture	:	Mixture
Chemical name	:	Mixture
Other means of identification	:	CC10357352

CAS number/other identifiers

Ingredient name	%	CAS number
Zinc oxide	>= 25 - <= 50	1314-13-2

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

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
	2/15



Version Number 1.0	Page 3 of 15
Revision Date 04/28/2022	Print Date 04/29/2022

	for breathing. Get medical attention if symptoms occur.
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	: No known significant effects or critical hazards.
Inhalation	: 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 medica	l attention and special treatment needed, if necessary
Notes to physician	: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled
Specific treatments	: No specific treatment.
Protection of first-aiders	: No action shall be taken involving any personal risk or withor suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

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 c <u>hemical</u>	:	No specific fire or explosion hazard.



Version Number 1.0 Revision Date 04/28/2022 Page 4 of 15 Print Date 04/29/2022

Hazardous thermal decomposition products	:	Decomposition products may include the following materials: carbon dioxide carbon monoxide 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 Methods and materials for containment	: nt ar	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).
	<u>n a</u>	
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.
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



Version Number 1.0 Revision Date 04/28/2022 Page 5 of 15 Print Date 04/29/2022

Protective measures	:	Put on appropriate personal protective equipment (see Section 8).
Advice on general occupational	:	Eating, drinking and smoking should be prohibited in areas where this
hygiene		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
Zinc oxide	OSHA PEL 1989 (1989-03-01)
	TWA 5 mg/m3 Form: Fume
	STEL 10 mg/m3 Form: Fume
	TWA 10 mg/m3 Form: Total dust
	TWA 5 mg/m3 Form: Respirable fraction
	OSHA PEL (1993-06-30)
	TWA 15 mg/m3 Form: Total dust
	TWA 5 mg/m3 Form: Respirable fraction
	NIOSH REL (1994-06-01)
	TWA 5 mg/m3 Form: Dust and fumes
	STEL 10 mg/m3 Form: Fume
	CEIL 15 mg/m3 Form: Dust
	ACGIH TLV (2003-01-01)
	TWA 2 mg/m3 Form: Respirable fraction
	STEL 10 mg/m3 Form: Respirable fraction
	OSHA PEL (1993-06-30)
	TWA 5 mg/m3 Form: Fume



Version Number 1.0	Page 6 of 15
Revision Date 04/28/2022	Print Date 04/29/2022

Appropriate engineering controls Environmental exposure controls	:	Good general ventilation should be sufficient to control worker exposure to airborne contaminants. 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

Appearance

Physical state	: solid [Pellets.]
Color	: WHITE



Version Number 1.0 Revision Date 04/28/2022 Page 7 of 15 Print Date 04/29/2022

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.
SADT	:	Not available.
Viscosity	:	Dynamic: Not available.
·		Kinematic: Not available.
Aerosol product		
Heat of combustion	:	Not available.
Ignition distance	:	Not available.
Enclosed space ignition - Time	:	Not available.
equivalent		
Enclosed space ignition -	:	Not available.
Deflagration density		
Flame height	:	Not available.
Flame duration	:	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.



Version Number 1.0 Revision Date 04/28/2022 Page 8 of 15 Print Date 04/29/2022

Conditions to avoid Incompatible materials	:	Keep away from extreme heat and oxidizing agents. 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

Information on toxicological effects

Acute toxicity

Conclusion/Summary

: Mixture.Not fully tested.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Zinc oxide (ZnO)	Eyes - Mild irritant	Rabbit	-	24 hrs	-
	Skin - Mild irritant	Rabbit	-	24 hrs	-

Conclusion/Summary Skin Eyes	Mixture.Not fully tested.Mixture.Not fully tested.
Respiratory	: Mixture.Not fully tested.
<u>Sensitization</u>	
Conclusion/Summary Skin Respiratory	Mixture.Not fully tested.Mixture.Not fully tested.
<u>Mutagenicity</u>	
Conclusion/Summary	: Mixture.Not fully tested.
Carcinogenicity	
Conclusion/Summary	: Mixture.Not fully tested.
Reproductive toxicity	
Conclusion/Summary	: Mixture.Not fully tested.
<u>Teratogenicity</u>	045



Version Number 1.0 Revision Date 04/28/2022 Page 9 of 15 Print Date 04/29/2022

Conclusion/Summary	:	Mixture.Not fully tested.			
<u>Specific target organ toxicity (single exposure)</u> Not available.					
Specific target organ toxicity (repean Not available.	Specific target organ toxicity (repeated exposure) Not available.				
Aspiration hazard Not available.					
Information on the likely routes of exposure	:	Not available.			
Potential acute health effects					
Eye contact	:	No known significant effects or critical hazards.			
Inhalation	:	No known significant effects or critical hazards.			
Skin contact	:	No known significant effects or critical hazards.			
Ingestion	:	No known significant effects or critical hazards.			
Symptoms related to the physical, cl	Symptoms related to the physical, chemical and toxicological characteristics				
Eye contact	:	No specific data.			
Inhalation	:	No specific data.			
Skin contact	:	No specific data.			
Ingestion	:	No specific data.			
Delayed and immediate effects and	also	chronic effects from short and long term exposure			
<u>Short term exposure</u>					
Potential immediate effects	:	Not available.			
Potential delayed effects	:	Not available.			
Long term exposure					
Potential immediate effects	:	Not available.			
Potential delayed effects	:	Not available.			
i otentiai delayed enects	•	Not available.			
Potential chronic health effects					
Conclusion/Summary	:	Mixture.Not fully tested.			
General	:	No known significant effects or critical hazards.			
		9/15			



Version Number 1.0 Revision Date 04/28/2022 Page 10 of 15 Print Date 04/29/2022

Carcinogenicity Mutagenicity Teratogenicity Developmental effects Fertility effects	::	No known significant effects or critical hazards. No known significant effects or critical hazards.
Numerical measures of toxicity Acute toxicity estimates		
N/A		
Other information	:	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.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Zinc oxide (ZnO)			
	Acute LC50 1.1 Mg/l Fresh	Fish - Oncorhynchus mykiss	96 h
	water		
	Acute LC50 0.098 Mg/l Fresh	Daphnia - Daphnia magna	48 h
	water		
	Acute IC50 1.85 Mg/l Marine	Algae - Skeletonema costatum	96 h
	water		
XRU-2887 PVDF SUPER STR	WHITE		
Remarks - Acute - Aquatic	Chemicals are not readily available	ole as they are bound within the poly	mer matrix.
invertebrates.:			
Conclusion/Summary	: Chemicals are not readily available as they are bound within the polymer matrix.		
Persistence and degradability Conclusion/Summary		adily available as they are bound wit	hin the
Conclusion/Summary	: Chemicals are not rea	adily available as they are bound wit	hin the
	10/15		



Version Number 1.0 Revision Date 04/28/2022

Page 11 of 15 Print Date 04/29/2022

polymer matrix.

Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
Zinc oxide (ZnO)	-	28,960.00	high

Mobility in soil

Not available. Soil/water partition coefficient (KOC) **Other adverse effects** No known significant effects or critical hazards.

:

Section 13. Disposal considerations

Disposal methods The generation of waste should be avoided or minimized wherever • possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered 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	: Consult mode specific transport rules	
	11/15	



Version Number 1.0 Revision Date 04/28/2022

Page 12 of 15 Print Date 04/29/2022

IMO/IMDG

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) - Proposed significant new use rules: Not listed United States - TSCA 5(a) - 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 6 - Proposed risk management: Not listed United States - TSCA 8(a) - Chemical risk rules: 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 United States - TSCA 8(d) - Health and safety studies: Not listed 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 - Flammable substances: Not listed
Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) Clean Air Act Section (02 Clean I	:	Not listed
Clean Air Act Section 602 Class I Substances Clean Air Act Section 602 Class II	:	Not listed
Substances	•	



Version Number 1.0 Revision Date 04/28/2022 Page 13 of 15 Print Date 04/29/2022

DEA List I Chemicals (Precursor:Not listedChemicals):Not listedDEA List II Chemicals (Essential
Chemicals):Not listed

US. EPA CERCLA Hazardous Substances (40 CFR 302)

not applicable

SARA 311/312

Classification

: Not applicable.

Composition/information on ingredients

No products were found.

Name	%	Classification
Zinc oxide (ZnO)	>= 25 - <= 50	EYE IRRITATION - Category 2B

Form R - Reporting requirements

Product name	CAS number	%
Zinc oxide	1314-13-2	>= 25 - <= 50

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

Not applicable.

State regulations		
Massachusetts	:	None of the components are listed.
New York	:	None of the components are listed.
New Jersey	:	The following components are listed: Zinc oxide
Pennsylvania	:	The following components are listed: Zinc oxide
California Prop. 65 This product does not require a Safe Ha United States inventory (TSCA 8b)		warning under California Prop. 65. All components are active or exempted.
Canada inventory	:	All components are listed or exempted.



Version Number 1.0 Revision Date 04/28/2022 Page 14 of 15 Print Date 04/29/2022

International regulations

Inventory list

Australia	:	All components are listed or exempted.
Canada	:	All components are listed or exempted.
China	:	All components are listed or exempted.
Europe inventory	:	All components are listed or exempted.
Japan	:	All components are listed or exempted.
New Zealand	:	All components are listed or exempted.
Philippines	:	All components are listed or exempted.
Republic of Korea	:	All components are listed or exempted.
Taiwan	:	All components are listed or exempted.
Turkey	:	Not determined.
United States	:	All components are active or exempted.

Section 16. Other information

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

Health	/	0
Flammability		0
Physical hazards		0

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

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Date of issue/Date of revision	:	04/28/2022
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



Version Number 1.0 Revision Date 04/28/2022

Page 15 of 15 Print Date 04/29/2022

MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) UN = United Nations Not available.

References

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.