SAFETY DATA SHEET

RIO RFU YELLOW

Section 1. Identification

GHS product identifier	:	RIO RFU YELLOW
Chemical name	:	Mixture
CAS number	:	Mixture
Other means of identification	:	FO20047238
Product type	:	solid

Relevant identified uses of the substance or mixture and uses advised against

Product use	:	Industrial applications. Plastics.
Supplier's details	:	**AVIENT CORPORATION** 33587 Walker Road, Avon Lake, OH 44012 1 (440) 930-1000 or 1 (844) 4AVIENT
Emergency telephone number (with hours of operation)	:	CHEMTREC 1-800-424-9300 (24hrs for spill, leak, fire, exposure or accident).

Section 2. Hazards identification

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.

GHS label elements

Signal word	:	No signal word.
Hazard statements	:	No known significant effects or critical hazards.

Precautionary statements

Prevention	:	Not applicable.
Response	:	Not applicable.
Storage	:	Not applicable.

Disposal	:	Not applicable.
Hazards not otherwise classified	:	None known.
Hazards identified when used	:	No known significant effects or critical hazards.

Section 3. Composition/information on ingredients

Substance/mixture	:	Mixture
Chemical name	:	RIO RFU YELLOW
Other means of identification	:	RIO RFU YELLOW

Ingredient name	Synonyms	%	Identifiers
Ethene, chloro-, homopolymer	Ethene, chloro-, homopolymer	>= 15 - <= 40	CAS: 9002-86-2
Titanium oxide	Titanium dioxide	>= 5 - <= 10	CAS: 13463-67-7
Carbonic acid calcium salt (1:1)	calcium carbonate	>= 1 - <= 5	CAS: 471-34-1

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 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 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. 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 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. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	:	In case of fire, use water spray (fog), foam, dry chemical or CO_2.
Unsuitable extinguishing media	:	None known.
Specific hazards arising from the chemical	:	No specific fire or explosion hazard.
Hazardous thermal decomposition products	:	May emit Hydrogen Chloride (HCl). 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-	:	Promptly isolate the scene by removing all persons from the vicinity of

fighters		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	:	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.
For emergency responders	:	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.
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.

Section 7. Handling and storage

Precautions for safe handling

Protective measures	:	Put on appropriate personal protective equipment (see Section 8).
Advice on general occupational hygiene	:	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
Ethene, chloro-, homopolymer	**ACGIH TLV (2008-01-01). [Polyvinyl chloride] A4.** TWA 8 hours: 1 mg/m3 Form: Respirable fraction
Titanium oxide	**CAL OSHA PEL (2018-05-16). [titanium dioxide as Ti]** TWA 8 hours: 10 mg/m3 (as Ti) Form: Total dust TWA 8 hours: 5 mg/m3 (as Ti) Form: Respirable fraction **ACGIH TLV (2022-01-06). [titanium dioxide finescale particles] A3.** TWA 8 hours: 2.5 mg/m3 Form: respirable fraction, finescale particles **ACGIH TLV (2022-01-06). [titanium dioxide nanoscale particles] A3.** TWA 8 hours: 0.2 mg/m3 Form: respirable fraction, nanoscale particles **OSHA PEL 1989 (1989-03-01). [Titanium dioxide]** TWA 8 hours: 10 mg/m3 Form: Total dust **OSHA PEL (1993-06-30). [Titanium dioxide]** TWA 8 hours: 15 mg/m3 Form: Total dust
Carbonic acid calcium salt (1:1)	**CAL OSHA PEL (2018-05-16). [calcium carbonate]** TWA 8 hours: 10 mg/m3 Form: Total dust TWA 8 hours: 5 mg/m3 Form: Respirable fraction **NIOSH REL (2015-02-13). [calcium carbonate]** TWA 10 hours: 10 mg/m3 Form: Total TWA 10 hours: 5 mg/m3 Form: Respirable fraction

Biological exposure indices

No exposure indices known.

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

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state	:	solid [Paste.]
Color	:	YELLOW
Odor	:	Faint odor.
Odor threshold	:	Not available.
pH	:	Not available.
Melting point/freezing point	:	Not available.
Boiling point or initial boiling point and boiling range	:	Not available.
Flash point	:	Not applicable.
Evaporation rate	:	Not available.
Flammability	:	Not available.
Lower and upper explosion limit/flammability limit	:	**Lower:** Not applicable. **Upper:** Not applicable.
Vapor pressure	:	Not available.
Relative vapor density	:	Not applicable.
Relative density	:	Not available.
Solubility in water	:	insoluble in water.
Partition coefficient: n-octanol/water	:	Not applicable.
Auto-ignition temperature	:	Not applicable.
Decomposition temperature	:	Not available.
Viscosity	:	**Dynamic :** Not available. **Kinematic :** Not applicable.

Particle characteristics

Median particle size	:	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 : Avoid contact with acetal homopolymers and acetyl homopolymers during processing.

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

Product/ingredient name	Result
Titanium oxide	**Rabbit - Dermal - LD50** > 5,000 mg/kg **Rat - Male - Inhalation - LC50 Dusts and mists** 6.82 Mg/l [4 h]
Carbonic acid calcium salt (1:1)	**Rat - Oral - LD50** 6,450 mg/kg

Conclusion/Summary : Mixture.Not fully tested.

Skin corrosion/irritation

Product/ingredient name	Result
Carbonic acid calcium salt (1:1)	**Rabbit - Skin - Moderate irritant** Duration of treatment/exposure: 24 hrs

Conclusion/Summary : Mixture.Not fully tested.

Serious eye damage/eye irritation

Product/ingredient name	Result
Carbonic acid calcium salt (1:1)	**Rabbit - Eyes - Severe irritant** Duration of treatment/exposure: 24 hrs

Conclusion/Summary : Mixture.Not fully tested.

Respiratory corrosion/irritation

Conclusion/Summary : Mixture.Not fully tested.

Respiratory or skin sensitization

Skin

Conclusion/Summary : Mixture.Not fully tested.

Respiratory

Conclusion/Summary : Mixture.Not fully tested.

Germ cell mutagenicity

Conclusion/Summary : Mixture.Not fully tested.

Carcinogenicity

Conclusion/Summary : Mixture.Not fully tested.

Classification

Product/ingredient name	OSHA	IARC	NTP
Ethene, chloro-, homopolymer	-	3	-
Titanium oxide	-	2B	-

Reproductive toxicity

Conclusion/Summary : Mixture.Not fully tested.

Specific target organ toxicity (single exposure)

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, 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

Short term exposure

Potential immediate effects	:	Not available.
Potential delayed effects	:	Not available.

Long term exposure

Potential immediate effects	:	Not available.
Potential delayed effects	:	Not available.

Potential chronic health effects

Not available.

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.
Reproductive toxicity	:	No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral	Dermal	Inhalation (gases)	Inhalation (vapors)	Inhalation (dusts and mists)
Titanium oxide	N/A	N/A	N/A	N/A	6.82 Mg/l
Carbonic acid calcium salt (1:1)	6450 mg/kg	N/A	N/A	N/A	N/A

Section 12. Ecological information

Toxicity

Product/ingredient name	Result
RIO RFU YELLOW	**Remarks:** Chemicals are not readily available as they are bound within the polymer matrix.
Titanium oxide	**Acute LC50 Marine water** Fish - *Fundulus heteroclitus* > 1,000 Mg/l [96 h] **Acute LC50 Fresh water** Crustaceans - *Ceriodaphnia dubia* 3 Mg/l [48 h] **Acute LC50 Fresh water** Daphnia - *Daphnia pulex* 6.5 Mg/l [48 h]
Carbonic acid calcium salt (1:1)	**Acute LC50 Fresh water** Fish - *Gambusia affinis* > 56,000 Mg/l [96 h]

Conclusion/Summary : Not available.

Persistence and degradability

Not available.

Conclusion/Summary : Chemicals are not readily available as they are bound within the polymer matrix.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/Water partition coefficient	:	Not available.
Mobility	:	Chemicals are not readily available as they are bound within the polymer matrix.

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.

Section 14. Transport information

U.S.DOT 49CFR Ground/Air/Water	:	Not regulated for transportation.
IATA	:	Not classified as dangerous goods under transport regulations.
IMDG	:	Not classified as dangerous goods under transport regulations.

Section 15. Regulatory information

U.S. Federal regulations

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

TSCA 8(a) - Preliminary assessment report (PAIR): Dimethyl silicones and siloxanes;

TSCA 12(b) - Chemical export notification

Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) : Listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

Name	%	EHS	SARA 302/304
PHENOL	> 0 - <= 0.1	Yes.	**SARA 302 TPQ:** 500 lb(s) **SARA 302 TPQ Solid upper limit:** 10,000 lb(s) **SARA 304 RQ:** 1,000 lb(s)
ACRYLONITRILE	> 0 - <= 0.1	Yes.	**SARA 304 RQ:** 100 lb(s) **SARA 302 TPQ:** 10,000 lb(s)

SARA 304 RQ : 33,333,333.3 lbs

SARA 311/312

Classification : Not applicable.

Composition/information on ingredients

No products were found.

State regulations

Massachusetts	:	The following components are listed: Titanium oxide
New York	:	None of the components are listed.
New Jersey	:	The following components are listed: PVC TITANIUM DIOXIDE MINERAL OIL (UNTREATED and MILDLY TREATED)
Pennsylvania	:	The following components are listed: TITANIUM OXIDE

California Prop. 65

⚠ **WARNING:** This product can expose you to, which is known to the State of California to cause cancer.For more information go to www.P65Warnings.ca.gov.

Ingredient name	No significant risk level	Maximum acceptable dosage level
Titanium dioxide	-	-

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Chemical Weapons Convention List Schedule I Chemicals
None of the components are listed.

Chemical Weapons Convention List Schedule II Chemicals
None of the components are listed.

Chemical Weapons Convention List Schedule III Chemicals
None of the components are listed.

Montreal Protocol
None of the components are listed.

Stockholm Convention on Persistent Organic Pollutants

Annex A - Elimination - Production
None of the components are listed.

Annex A - Elimination - Use
None of the components are listed.

Annex B - Restriction - Production
None of the components are listed.

Annex B - Restriction - Use
None of the components are listed.

Annex C - Unintentional - Production
None of the components are listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Rotterdam Convention on Prior Informed Consent (PIC) - Industrial
None of the components are listed.

Rotterdam Convention on Prior Informed Consent (PIC) - Pesticide
None of the components are listed.

Rotterdam Convention on Prior Informed Consent (PIC) -Severely hazardous pesticide
None of the components are listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Heavy metals - Annex 1
None of the components are listed.

POPs - Annex 1 - Production
None of the components are listed.

POPs - Annex 1 - Use
None of the components are listed.

POPs - Annex 2
None of the components are listed.

POPs - Annex 3
None of the components are listed.

Inventory list

Australia	:	All components are listed or exempted.
Canada	:	All components are listed or exempted.
China	:	All components are listed or exempted.

Eurasian Economic Union	:	**Russian Federation inventory:** Not determined.
Japan	:	**Japan inventory (CSCL)**: Not determined. **Japan inventory (ISHL)**: Not determined.
New Zealand	:	Not determined.
Philippines	:	Not determined.
Republic of Korea	:	All components are listed or exempted.
Taiwan	:	All components are listed or exempted.
Thailand	:	Not determined.
Turkey	:	Not determined.
United States	:	All components are active or exempted.
Viet Nam	:	Not determined.

Section 16. Other information

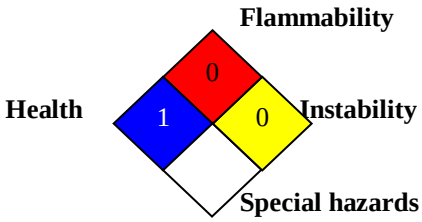
Hazardous Material Information System (U.S.A.)

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.

National Fire Protection Association (U.S.A.)



Procedure used to derive the classification
Not classified.

History

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Prepared by	:	NIMBALKARA
Key to abbreviations	:	ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor DOT = Department of Transportation GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods IMO = International Maritime Organization 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) N/A = Not available SGG = Segregation Group TDG = Transportation of Dangerous Goods UN = United Nations
References	:	Not available.

Notice to reader

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