

In accordance with Globally Harmonized System of  
Classification and Labelling of Chemicals (GHS)-  
Chapter 1.5 and Annex 4

## SAFETY DATA SHEET

**Product:** REVOLUTION POLYESTER PUTTY

Revision: 02

Date: 05/27/2022

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### 1 - IDENTIFICATION

GHS Product identifier:	REVOLUTION POLYESTER PUTTY
Other means of identification:	044368-00
Recommended use of the chemical:	INDUSTRIAL USE.
Specific restrictions on use:	There are not known restrictions on use of the product.
Supplier`s details:	ANJO QUIMICA DO BRASIL LTDA
Address:	Acesso Estadual Rio Maina, nº 1165, Bairro Vila Macarini CEP: 88818-800, Criciúma - SC - BR
Phone number(s):	(48) 34618000 (48) 34618049
Emergency phone number:	CIATox/SC (Centro de Informação e Assistência Toxicológica de Santa Catarina) 08006435252

### 2 - HAZARD IDENTIFICATION

Classification of the substance or mixture:	Flammable Liquids - Category 3 Skin Corrosion/Irritation - Category 2 Serious eye damage/eye irritation - Category 2A Carcinogenicity - Category 2 Reproductive Toxicity - Category 1B Specific Target Organ Toxicity – Single Exposure - Category 3 - Respiratory Specific Target Organ Toxicity – Repeated Exposure - Category 1 Hazardous to the Aquatic Environment - Acute Hazard - Category 3 Hazardous to the Aquatic Environment - Chronic Hazard - Category 3
Classification system adopted:	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations.

#### GHS label elements, including precautionary statements

Pictograms:



Signal word: DANGER

Hazard statement(s):  
H226 Flammable liquid and vapour.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.  
H351 Suspected of causing cancer.  
H360 May damage fertility or the unborn child.  
H372 Causes damage to the central nervous system through prolonged or repeated exposure if inhaled.  
H412 Harmful to aquatic life with long lasting effects.

Precautionary **PREVENTION:**

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statement(s):

- P203 Obtain, read and follow all safety instructions before use.
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P233 Keep container tightly closed.
- P240 Ground and bond container and receiving equipment.
- P241 Use explosion-proof electrical, ventilating and lighting equipment.
- P242 Use non-sparking tools.
- P243 Take action to prevent static discharges.
- P260 Do not breathe dust/fume/gas/mist/vapours/spray.
- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
- P264 Wash hands thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P271 Use only outdoors or in a well-ventilated area.
- P273 Avoid release to the environment.
- P280 Wear protective gloves, protective clothing, eye protection, face protection and hearing protection.

### RESPONSE TO EMERGENCY:

- P302 + P352 IF ON SKIN: Wash with plenty of water.
- P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water.
- P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P318 IF exposed or concerned, get medical advice.
- P319 Get medical help if you feel unwell.
- P321 Specific treatment.
- P332 + P317 If skin irritation occurs: Get medical help.
- P337 + P317 If eye irritation persists: Get medical help.
- P362 + P364 Take off contaminated clothing. And wash it before reuse.
- P370 + P378 In case of fire: Use carbon dioxide (CO<sub>2</sub>), foam, water mist and powder to extinguish.

### STORAGE:

- P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
- P403 + P235 Store in a well-ventilated place. Keep cool.
- P405 Store locked up.

### DISPOSITION:

- P501 Dispose of contents and container in accordance with local regulations.

Other hazards which do not result in classification: The product has no other hazards.

### 3 - COMPOSITION/INFORMATION ON INGREDIENTS

#### MIXTURE

Components contributing to the POLIAL M-110F (CAS Not applicable): 21.5 - 64.5% <sup>1</sup>;  
Titanium dioxide (CAS 13463-67-7): 5.0 - 15.0% <sup>2</sup>;

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**hazard:** Silicic acid (CAS 100-42-5): 1.0 - 3.0%;  
Anti land u (CAS Not applicable): 0.5 - 1.5% <sup>3</sup>;  
BENTONE SD-1 (CAS Not applicable): 0.5 - 1.5% <sup>4</sup>;  
Q-CEL 6019 S (CAS Not applicable): 0.15 - 0.45%;

<sup>1</sup>This product contains as substances or impurities the following substances with occupational exposure limit: Silicic acid.

<sup>2</sup>Ingredient not classified as hazardous by the Classification System used, but has an established occupational exposure limit, according to section 8.

<sup>3</sup>This product contains as substances or impurities the following substances with occupational exposure limit: Ethylbenzene, Xylene and Isobutyl alcohol.

<sup>4</sup>This product contains as substances or impurities the following substances with occupational exposure limit: Quartz.

### 4 - FIRST-AID MEASURES

#### Routes of exposure

**Inhalation:** Remove victim to fresh air and keep at rest in a position comfortable for breathing. If the victim feels unwell, contact a TOXICOLOGICAL INFORMATION CENTER or a doctor. Bring this SDS.

**Skin:** Wash exposed skin with sufficient amount of water to remove the material. Take off and isolate contaminated clothing and shoes. In case of skin irritation: contact a doctor. Bring this SDS.

**Eye:** Wash carefully with water for several minutes. In case of use of contact lenses, remove them, if possible. Keep washing. If eyes irritation continues: Contact a doctor. Bring this SDS.

**Ingestion:** Do not induce vomiting. Never give anything by mouth to an unconscious person. Rinse the victims mouth with water in abundance. If the victim feels unwell, contact a TOXICOLOGICAL INFORMATION CENTER or a doctor. Bring this SDS.

**Most important symptoms/effects, acute and delayed:** Causes skin irritation with redness, pain and dryness. Causes serious eye irritation with redness and pain. May cause respiratory irritation, may cause cough and sneezing. Causes damage to the central nervous system through prolonged or repeated exposure.

**Indication of immediate medical attention and special treatment needed, if necessary:** Avoid contact with the product to help the victim. Keep victim warm and quiet. Symptomatic treatment should comprise mainly supportive measures such as correction of electrolyte disturbances, metabolic, and respiratory support. In case of skin contact do not rub the affected area.

### 5 - FIRE-FIGHTING MEASURES

**Extinguishing Media:** Appropriate: carbon dioxide (CO<sub>2</sub>), foam, water mist and powder.  
Inappropriate: water jet directly.

**Specific hazards arising from the chemical:** The combustion of the chemical containers may form toxic and irritant gases such as carbon monoxide and carbon dioxide.  
Vapors may be heavier than air and tend to accumulate in low or confined areas, such as sewers and basements. Containers may explode if heated.

**Special protective actions for fire-fighters:** Use self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing. Containers and tanks involved in the fire should be cooled with water mist.

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### 6 - ACCIDENTAL RELEASE MEASURES

#### Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: Do not smoke. Avoid exposure to the product. If necessary, use personal protective equipment as described in Section 8.

**For emergency responders:** Wear complete PPE with safety glasses, safety gloves, suitable protective clothing and closed shoes. In case of leakage, where exposure is high, it is recommended to use a suitable respiratory protection mask.

Environmental precautions: Avoid that the spilled material reaches waterways or sewage system.

Method and materials for containment and cleaning up: Use water mist or vapor suppressing foam to reduce the dispersion of vapors. Use natural barriers or spill containment. Collect spilled material and put it into containers. Adsorb the remaining product with dried sand, vermiculite or any other inert material. Put the adsorbed material in appropriate containers and remove them to a safe place. Use tools that do not cause sparks to collect absorbed material.

### 7 - HANDLING AND STORAGE

#### Precautions for safe handling

Safe handling of the substance or mixture: Handle in a well ventilated area or with general system of ventilation/local exhaust. Avoid vapors and mists formation.

General hygiene: Wash hands and face thoroughly after handling and before eating, drinking, smoking or going to the bathroom.

#### Conditions for safe storage, including any incompatibilities

Technical measures for prevention of fire and explosion: It is not expected that the product presents a fire or explosion hazard. Use personal protective equipment as described in Section 8.

Adequate conditions: Store in a well ventilated place away from sunlight. Keep container closed. Keep away from high temperatures.

Packaging compatibilities: Similar to the original packaging.

Inadequate packaging materials: There are not known unsuitable material of the product.

### 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Control parameters

Occupational exposure limit: The values below apply to workplaces.

- Isobutyl alcohol:

OSHA - PEL - TWA: 100 ppm; 300 mg/m<sup>3</sup>;

NIOSH - REL - TWA: 50 ppm;

ACGIH - TLV - TWA: 50 ppm.

- Ethylbenzene:

OSHA - PEL - TWA: 100 ppm; 435 mg/m<sup>3</sup>;

NIOSH - REL - TWA: 100 ppm;

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NIOSH - REL - STEL: 125 ppm;  
ACGIH - TLV - TWA: 20 ppm.  
- Xylene:  
OSHA - PEL - TWA: 100 ppm; 435 mg/m<sup>3</sup>;  
NIOSH - REL - TWA: 100 ppm;  
NIOSH - REL - STEL: 150 ppm;  
ACGIH - TLV - TWA: 100 ppm;  
ACGIH - TLV - STEL: 150 ppm.  
- Quartz:  
OSHA - PEL - TWA: (CFR1);  
NIOSH - REL - TWA: 0.05 mg/m<sup>3</sup> (Ca); (AA);  
ACGIH - TLV - TWA: 0.025 mg/m<sup>3</sup> (R).  
- Silicic acid:  
OSHA - PEL - TWA: (Z2);  
NIOSH - REL - TWA: 215 mg/m<sup>3</sup>; 50 ppm;  
NIOSH - REL - STEL: 425 mg/m<sup>3</sup>; 100 ppm;  
ACGIH - TLV - TWA: 10 ppm;  
ACGIH - TLV - STEL: 20 ppm.  
- Titanium dioxide:  
OSHA - PEL - TWA: 15 mg/m<sup>3</sup>;  
NIOSH - REL - TWA: 2.4 mg/m<sup>3</sup> (fine); 0.3 mg/m<sup>3</sup> (ultrafine); (Ca) (ultrafine particles); (AA); (B63);  
ACGIH - TLV - TWA: 10 mg/m<sup>3</sup>.  
- Silicic acid:  
OSHA - PEL - TWA: (Z2);  
NIOSH - REL - TWA: 215 mg/m<sup>3</sup>; 50 ppm;  
NIOSH - REL - STEL: 425 mg/m<sup>3</sup>; 100 ppm;  
ACGIH - TLV - TWA: 10 ppm;  
ACGIH - TLV - STEL: 20 ppm.

R: Respirable particulate matter;  
Ca: Potential occupational carcinogen.  
AA: See NIOSH REL Appendix A;  
CFR1: See CFR 1910.1053.  
Z2: See NIOSH REL Annotated Z-2;  
B63: See NIOSH Intelligence Bulletin 63;

Biological limit:

- Ethylbenzene:  
ACGIH - BEI: Determinant: Sum of mandelic acid and phenylglyoxylic acid in urine.  
Sampling Time: End of shift. Index: 0.15 g/g creatinine. Ns.  
- Xylene:  
ACGIH - BEI: Determinant: Methylhippuric acids in urine. Sampling Time: End of shift.  
Index: 1.50 g/g creatinine.  
- Silicic acid:  
ACGIH - BEI: Determinant: Mandelic acid plus phenylglyoxylic acid in urine. Sampling Time: End of shift. Index: 400.00 mg/g creatinine. Ns; Determinant: Styrene in urine. Sampling Time: End of shift. Index: 40.00 µg/L.  
- Silicic acid:  
ACGIH - BEI: Determinant: Mandelic acid plus phenylglyoxylic acid in urine. Sampling Time: End of shift. Index: 400.00 mg/g creatinine. Ns; Determinant: Styrene in urine. Sampling Time: End of shift. Index: 40.00 µg/L.

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Ns: The determinant is nonspecific, since it is also observed after exposure to other chemicals;

Other limits and values: - Isobutyl alcohol:  
IDLH (NIOSH, 2010): 1600 ppm.

Appropriate engineering controls: Promote mechanical ventilation and exhaust system to outside. These acts help reducing the exposition to the product. Maintain atmospheric concentrations of the constituents of the product below occupational exposure limits indicated.

### Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection: Safety glasses.

Skin protection: Closed shoes and suitable protective clothing. Appropriate protective gloves.

Respiratory protection: A risk assessment should be performed for proper definition of respiratory protection, in view of the product use conditions.

Thermal hazards: It does not present thermal hazards.

### 9 - PHYSICAL AND CHEMICAL PROPERTIES

Aspect: Liquid, pasty.

Color: Not available.

Odour: Not available.

Melting point/freezing point: Not available.

Boiling point or initial boiling point and boiling range: Not available.

Flammability: Flammable.

Lower and upper explosion limit/flammability limit: Not available.

Flash point: Not available.

Auto-ignition temperature: Not available.

Decomposition temperature: Not available.

pH: Not available.

Kinematic viscosity: Not available.

Solubility(ies): Water immiscible.

Partition coefficient n-octanol/water (log value): Not available.

Vapour pressure: Not available.

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Relative vapour density:	Not available.
Density and/or relative density:	Not available.
Particle characteristics:	Not applicable.
Other information:	Absolute density: $\cong$ 1.35 g/cm <sup>3</sup> .

### 10 - STABILITY AND REACTIVITY

Reactivity:	Reactivity is not to be expected under normal conditions of temperature and pressure
Stability:	Stable product under normal conditions of temperature and pressure.
Possibility of hazardous reactions:	Silicic acid: Exothermic polymerization and under confinement may cause an explosion. Ethylbenzene: Reacts violently with oxidizing materials. Xylene: Risk of explosion when in contact with nitric acid and uranium hexafluoride. May react dangerously with oxidizing agents and sulfuric acid. Isobutyl alcohol: May ignite on contact with chromium trioxide. It can react with aluminum at high temperatures, forming hydrogen gas (explosive).
Conditions to avoid:	Elevated temperatures. Contact with incompatible materials.
Incompatible material:	Aluminum, Chromium trioxide, Copper alloys, Nitric acid, Oxidizing Agents, Oxygen, Peroxides, Strong Acids and Sulphuric acid.
Hazardous decomposition products:	There are no known hazardous decomposition products.

### 11 - TOXICOLOGICAL INFORMATION

Acute toxicity:	Product not classified as acute toxic. ATEmix Oral: > 5000 mg/kg. ATEmix Dermal: > 5000 mg/kg. ATEmix Vapours (4h): > 20 mg/L. ATEmix Dusts and mists (4h): > 5 mg/L.
Skin corrosion/irritation:	Causes skin irritation with redness, pain and dryness.
Serious eye damage/irritation:	Causes serious eye irritation with redness and pain.
Respiratory or skin sensitization:	It is not expected that the product presents respiratory or skin sensitization.
Germ cell mutagenicity:	It is not expected that the product presents germ cell mutagenicity.
Carcinogenicity:	Suspected of causing cancer.  The ingredient Ethylbenzene, classified as carcinogenic - category 2, is in concentration < 1% and does not contribute to this classification of the product.
Reproductive toxicity:	May damage fertility or the unborn child.  The ingredient Silicic acid, classified as reproductive toxicant - category 2, is in

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	concentration < 3% and does not contribute to this classification of the product.
STOT - Single exposure:	May cause respiratory irritation, may cause cough and sneezing.
STOT - Repeated exposure:	Causes damage to the central nervous system through prolonged or repeated exposure if inhaled.
Aspiration Hazard:	It is not expected that the product presents aspiration hazard.

### 12 - ECOLOGICAL INFORMATION

Toxicity:	Harmful to aquatic life with long lasting effects. Information regarding to: - <u>Silicic acid</u> : LC <sub>50</sub> ( <i>Pimephales promelas</i> , 96h): 10 mg/L; EC <sub>50</sub> ( <i>Daphnia magna</i> , 48h): 4.7 mg/L; ErC <sub>50</sub> (Green algae, 96h): 6.3 mg/L.
Persistence and degradability:	It is expected that the product presents persistence and it is not considered readily biodegradable.
Bioaccumulative potential:	Presents low bioaccumulative potential in aquatic organisms. Information regarding to: - <u>Silicic acid</u> : BCF: 13.5 log <i>K</i> <sub>ow</sub> : 2.95.
Mobility in soil:	Not determined.
Other adverse effects:	There are not known other environmental effects for this product.

### 13 - DISPOSAL CONSIDERATIONS

#### Disposal methods

Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product.  
Keep the product remains in its original and properly closed containers. Disposal should be performed as established for the product.

### 14 - TRANSPORT INFORMATION

<b>Road:</b>	UN - United Nations: Model Regulations: • Recommendations on the Transport of Dangerous Goods.
UN number:	1263
Proper shipping name:	PAINT RELATED MATERIAL
Primary risk class or division:	3
Subsidiary risk class or division:	NA
Packing group:	II
<b>Railway</b>	COTIF - Convention concerning International Carriage by Rail:

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<b>regulations:</b>	<ul style="list-style-type: none"> <li>Appendix C: RID - Regulations concerning the International Carriage of Dangerous Goods by Rail</li> </ul>
UN number:	1263
Proper shipping name:	PAINT RELATED MATERIAL
Primary risk class or division:	3
Subsidiary risk class or division:	NA
Packing group:	II
<b>Sea:</b>	IMO - International Maritime Organization: <ul style="list-style-type: none"> <li>IMDG Code - International Maritime Dangerous Goods Code.</li> </ul>
UN number:	1263
Proper shipping name:	PAINT RELATED MATERIAL
Primary risk class or division:	3
Subsidiary risk class or division:	NA
Packing group:	II
EmS:	F-E, <u>S</u> -E
Environmental hazards:	The product is not considered a marine pollutant for transportation.
<b>Air:</b>	IATA - International Air Transport Association: <ul style="list-style-type: none"> <li>DGR - Dangerous Goods Regulation.</li> </ul>
UN number:	1263
Proper shipping name:	PAINT RELATED MATERIAL
Primary risk class or division:	3
Subsidiary risk class or division:	NA
Packing group:	II
Special precautions for user:	Not applicable.

### 15 - REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

### 16 - OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product

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involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

Elaborated May 2022.

### Change Control:

Version	Elaboration	Changes
02	05/27/2022	Change in composition. Change in section: 1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 and 16.

### Abbreviations:

ACGIH - American Conference of Governmental Industrial Hygienists;  
ATEmix - Acute Toxicity Estimate of the mixture;  
BCF - Bioconcentration factor;  
BEI - Biological Exposure Index;  
CAS - Chemical Abstracts Service;  
EC - European Community;  
EC<sub>50</sub> - Effective Concentration 50%;  
EEC - European Economic Community;  
ErC<sub>50</sub> - Effective concentration that results in a 50% reduction in the growth rate;  
IDLH - Immediately Dangerous to Life or Health;  
K<sub>ow</sub> - Octanol/Water partition coefficient;  
LC<sub>50</sub> - Lethal Concentration 50%;  
NIOSH - National Institute for Occupational Safety and Health;  
OSHA - Occupational Safety & Health Administration;  
PEL - Permissible Exposure Limit;  
REL - Recommended Exposure Limit;  
STEL - Short Term Exposure Limit;  
TLV - Threshold Limit Value;  
TWA - Time Weighted Average;  
UN - United Nations.

### Bibliographic references:

GHS - GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS. 8th rev. ed. New York: United Nations, 2019.

ACGIH - AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2020.

REACH - REGISTRATION, EVALUATION, AUTHORIZATION AND RESTRICTION OF CHEMICALS. Commission Regulation (EC) No 1272/2008 of December 2008 amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals. Available at: < <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:353:0001:1355:en:PDF> >. Access in: May. 2022.