

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

SAFETY DATA SHEET

Product: CATALYST FOR POLYURETHANE HS PRIMER 5:1:1 FLEX

Revision: 04

Date: 08/02/2021

Pages: 1/10

1 - IDENTIFICATION

GHS Product identifier:	CATALYST FOR POLYURETHANE HS PRIMER 5:1:1 FLEX
Other means of identification:	031233-00
Recommended use of the chemical:	INDUSTRIAL USE.
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 Reproductive Toxicity - Category 1B Specific Target Organ Toxicity - Single Exposure - Category 3 - Narcotic Hazardous to the Aquatic Environment - Acute 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.
H336 May cause drowsiness or dizziness.
H360 May damage fertility or the unborn child.
H402 Harmful to aquatic life.

Precautionary statement(s):
PREVENTION:
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
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.

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

SAFETY DATA SHEET

Product: CATALYST FOR POLYURETHANE HS PRIMER 5:1:1 FLEX

Revision: 04

Date: 08/02/2021

Pages: 2/10

P241 Use explosion-proof electrical, ventilating and lighting equipment.
P242 Use non-sparking tools.
P243 Take action to prevent static discharges.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 Wash hands thoroughly after handling.
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 skin with water [or shower].
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.
P308 + P313 IF exposed or concerned: If eye irritation persists: If skin irritation occurs: Get medical advice/attention.
P312 Call a POISON CENTER or a doctor, if you feel unwell.
P321 Specific treatment.
P332 + P313 If skin irritation occurs: Get medical advice/attention.
P337 + P313 If eye irritation persists: If skin irritation occurs: Get medical advice/attention.
P362 + P364 Take off contaminated clothing. And wash it before reuse.
P370 + P378 In case of fire: Use carbon dioxide (CO₂), 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:

It is not expected that product presents specific hazards.

3 - COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Components contributing to the hazard:	Sec-butyl acetate (CAS 105-46-4): 15.00 - 45.00 %; Xylene (CAS 1330-20-7): 12.00 - 36.00 %; Ethylglycol acetate (CAS 111-15-9): 3.00 - 9.00 %; Ethyl acetate (CAS 141-78-6): 1.50 - 4.50 %; 1.6-hexamethylene diisocyanate (CAS 822-06-0): 0.07 - 0.21 % ¹ .
--	---

¹The ingredient does not contribute to the hazard but has an established occupational

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

SAFETY DATA SHEET

Product: CATALYST FOR POLYURETHANE HS PRIMER 5:1:1 FLEX

Revision: 04

Date: 08/02/2021

Pages: 3/10

exposure limit, according to section 8.

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 drowsiness or dizziness, may cause dizziness and nausea.
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 ₂), foam, water mist and powder. Inappropriate: water directly onto the burning product.
Specific hazards arising from the chemical:	The combustion or the chemical containers may form toxic and irritant gases such as carbon monoxide and carbon dioxide. Very dangerous when exposed to excessive heat or other sources of ignition such as sparks, open flames or flames of matches and cigarettes, welding operations, pilot lights and electric motors. Can accumulate static charge by flow or agitation. Vapors from heated liquid can be ignited by static discharge. Vapors are heavier than air and tend to accumulate in low or confined areas, such as sewers and basements. Can travel great distances causing retrogression of the flame or new fires both in open environments in as confined ones. 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.

6 - ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel:	Prevent sparks or flames. Do not smoke. Do not touch damaged containers or spilled material without the use of appropriate clothing. Avoid exposure to the product. Stay in
------------------------------	---

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

SAFETY DATA SHEET

Product: CATALYST FOR POLYURETHANE HS PRIMER 5:1:1 FLEX

Revision: 04

Date: 08/02/2021

Pages: 4/10

	a safe place, with wind from behind. Use personal protective equipment as described in Section 8.
For emergency service personnel:	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. For final destination, proceed pursuant to Section 13 of this SDS.

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. Avoid exposure to the chemical, since the effects may not be felt immediately.
General hygiene:	Wash hands and face thoroughly after handling and before eating, drinking, smoking or going to the bathroom. Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.

Conditions for safe storage, including any incompatibilities

Technical measures for prevention of fire and explosion:	Keep away from heat, sparks, open flames and hot surfaces. - Do not smoke. Keep container tightly closed. Ground the container vessel and the receiver of the product during transfers. Only use anti-sparking tools. Avoid the accumulation of electrostatic charges. Use electrical equipment, ventilation and lighting explosion proof. 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 and ignition sources. Keep stored at room temperature not exceeding 35°C (95°F).
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. - <u>1,6-hexamethylene diisocyanate:</u> ACGIH - TLV - TWA: 0.005 ppm. - <u>Ethyl acetate:</u>
------------------------------	---

SAFETY DATA SHEET

Product: CATALYST FOR POLYURETHANE HS PRIMER 5:1:1 FLEX

Revision: 04

Date: 08/02/2021

Pages: 5/10

OSHA - PEL - TWA: 400 ppm; 1400 mg/m³;

NIOSH - REL - TWA: 400 ppm;

ACGIH - TLV - TWA: 400 ppm.

- Ethylglycol acetate:

OSHA - PEL - TWA: 100 ppm; 540 mg/m³;

NIOSH - REL - TWA: 0.5 ppm;

ACGIH - TLV - TWA: 5 ppm.

- Xylene:

OSHA - PEL - TWA: 100 ppm; 435 mg/m³;

NIOSH - REL - TWA: 100 ppm;

NIOSH - REL - STEL: 150 ppm;

ACGIH - TLV - TWA: 100 ppm;

ACGIH - TLV - STEL: 150 ppm.

- Sec-butyl acetate:

OSHA - PEL - TWA: 200 ppm; 950 mg/m³;

NIOSH - REL - TWA: 200 ppm;

ACGIH - TLV - TWA: 50 ppm;

ACGIH - TLV - STEL: 150 ppm.

Biological limit:

- 1,6-hexamethylene diisocyanate:

ACGIH - BEI: Determinant: 1,6-Hexamethylene diamine in urine. Sampling Time: End of shift. Index: 15.00 µg/g creatinine. Ns.

- Ethylglycol acetate:

ACGIH - BEI: Determinant: 2-Ethoxyacetic acid in urine. Sampling Time: End of shift at end of workweek. Index: 100.00 mg/g creatinine.

- Xylene:

ACGIH - BEI: Determinant: Methylhippuric acids in urine. Sampling Time: End of shift. Index: 1.50 g/g creatinine.

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

Other limits and values:

- Ethyl acetate:

IDLH (NIOSH, 2010): 2000 ppm.

Appropriate engineering controls:

Promote mechanical ventilation and exhaust system to outside. These acts help reducing the exposition to the product. Keep atmospheric concentration of the product's components below the exposition occupational limits indicated. 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: Does not present thermal hazards.

9 - PHYSICAL AND CHEMICAL PROPERTIES

Aspect: Liquid.

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

SAFETY DATA SHEET

Product: CATALYST FOR POLYURETHANE HS PRIMER 5:1:1 FLEX

Revision: 04 Date: 08/02/2021 Pages: 6/10

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:	Upper: 7.6 % and Lower: 0.7%.
Flash point:	23.5 °C (74.3 °F) - Closed cup.
Auto-ignition temperature:	425 °C (797 °F).
Decomposition temperature:	Not available.
pH:	Not available.
Kinematic viscosity:	Not available.
Solubility:	Water immiscible.
Partition coefficient n-octanol/water (log value):	Not available.
Vapour pressure:	Not available.
Relative vapour density:	Not available.
Density and/or relative density:	Not available.
Particle characteristics:	Not applicable.
Other information:	Absolute density: 0.96 to 1 g/cm ³ .

10 - STABILITY AND REACTIVITY

Reactivity:	Reactivity is not to be expected under normal conditions of temperature and pressure
Stability:	Product is stable under normal conditions of temperature and pressure.
Possibility of hazardous reactions:	Sec-butyl acetate: Reacts with strong oxidizing agents, strong acids and strong bases with risk of explosion. The product vapors may form explosive mixtures with air. Xylene: Risk of explosion when in contact with nitric acid and uranium hexafluoride. You could dangerously react with oxidizing agents and sulfuric acid. Ethyl acetate: React dangerously with strong oxidizing agents and chlorosulfonic acid, which can start a fire or explosion.

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

SAFETY DATA SHEET

Product: CATALYST FOR POLYURETHANE HS PRIMER 5:1:1 FLEX

Revision: 04

Date: 08/02/2021

Pages: 7/10

Conditions to avoid: Elevated temperatures. Sources of ignition. Contact with incompatible materials.

Incompatible material: Acids, Alcohols, Alkali, Amines, Copper, Nitrates, Nitric acid, Oxidizing Agents, Oxygen, Radioactive materials, Spontaneous combustion of materials, Sulphuric acid and Water.

Hazardous decomposition products: There are not known hazardous decomposition products.

11 - TOXICOLOGICAL INFORMATION

Acute toxicity: Product not classified as acute toxic by oral and inhalation.
ATEmix (Oral): > 5000 mg/kg.
ATEmix (Inhalation of 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.
The ingredient 1,6-hexamethylene diisocyanate, classified as respiratory sensitizer - category 1, is in concentration < 1% and does not contribute to this classification of the product.
The ingredient 1,6-hexamethylene diisocyanate, classified as skin sensitizer - category 1, is in concentration < 1% and does not contribute to this classification of the product.

Germ cell mutagenicity: It is not expected that the product presents germ cell mutagenicity.

Carcinogenicity: It is not expected that the product presents carcinogenicity.

Reproductive toxicity: May damage fertility or the unborn child.

STOT - Single exposure: May cause drowsiness or dizziness, may cause dizziness and nausea.
Information regarding to :
- Xylene:
At high concentrations may cause hypotension, tachycardia, vasodilation, dizziness, incoordination, headache, confusion, stupor and coma.

STOT - Repeated exposure: It is not expected that the product presents specific target organ toxicity by repeated exposure.

The ingredient Ethylglycol acetate, classified as specific target organ toxicant - repeated exposure - category 2, is in concentration < 10% and does not contribute to this classification of the product.

Aspiration Hazard: It is not expected that the product presents aspiration hazard.

12 - ECOLOGICAL INFORMATION

Toxicity: Harmful to aquatic life.
Information regarding to :
- Xylene:
NOEC (*Oncorhynchus mykiss*, 56 d): > 1 mg/L;
NOEC (*Ceriodaphnia dubia*, 7 d): > 1 mg/L;
LC₅₀ (*Lepomis macrochirus*, 96h): 19 mg/L;

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

SAFETY DATA SHEET

Product: CATALYST FOR POLYURETHANE HS PRIMER 5:1:1 FLEX

Revision: 04

Date: 08/02/2021

Pages: 8/10

	EC ₅₀ (<i>Crustacea</i> , 48h): 8.5 mg/L.
Persistence and degradability:	Due to the lack of data, 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>Xylene</u> : BCF: 6 log K _{ow} : 3.09.
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

Road:	UN - United Nations: Model Regulations: • Recommendations on the Transport of Dangerous Goods.
UN Number:	1866
Proper shipping name:	RESIN SOLUTION
Primary risk class or division:	3
Subsidiary risk class or division:	NA
Packing group:	III
Railway regulations:	COTIF - Convention concerning International Carriage by Rail: • Appendix C: RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
UN Number:	1866
Sea:	IMO - International Maritime Organization: • IMDG Code - International Maritime Dangerous Goods Code.
UN Number:	1866
Proper shipping name:	RESIN SOLUTION
Primary risk class or division:	3
Subsidiary risk class or division:	NA
Packing group:	III

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

SAFETY DATA SHEET

Product: CATALYST FOR POLYURETHANE HS PRIMER 5:1:1 FLEX

Revision: 04 Date: 08/02/2021 Pages: 9/10

EmS:	F-E, S-E
Environmental hazards:	The product is not considered a marine pollutant for transportation.
Air:	IATA - International Air Transport Association: • DGR - Dangerous Goods Regulation.
UN Number:	1866
Proper shipping name:	RESIN SOLUTION
Primary risk class or division:	3
Subsidiary risk class or division:	NA
Packing group:	III
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 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 August 2021.

Change Control:

Version	Elaboration	Changes
04	08/02/2021	Change in composition. Change in section: 1, 2, 4, 8, 11, 12, 14 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;
EC₅₀ - Effective Concentration 50%;

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

SAFETY DATA SHEET

Product: CATALYST FOR POLYURETHANE HS PRIMER 5:1:1 FLEX

Revision: 04

Date: 08/02/2021

Pages: 10/10

IARC - International Agency for Research on Cancer;
IDLH - Immediately Dangerous to Life or Health;
 K_{ow} - Octanol/Water partition coefficient;
LC₅₀ - Lethal Concentration 50%;
NIOSH - National Institute for Occupational Safety and Health;
NOEC - No Observed Effect Concentration;
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.

ECHA - EUROPEAN CHEMICAL AGENCY. Available at: < <http://echa.europa.eu/web/guest> >. Access in: Aug. 2021.

GESTIS - SUBSTANCE DATABASE. Available at: < [http://gestis-en.itrust.de/nxt/gateway.dll/gestis_en/000000.xml?f=templates\\$fn=default.htm\\$3.0](http://gestis-en.itrust.de/nxt/gateway.dll/gestis_en/000000.xml?f=templates$fn=default.htm$3.0) >. Access in: Aug. 2021.

HSDB - HAZARDOUS SUBSTANCES DATA BANK. Available at: <http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB>. Access in: Aug. 2021.

IARC - INTERNATIONAL AGENCY FOR RESEARCH ON CANCER. Available at:
<http://monographs.iarc.fr/ENG/Classification/index.php>. Access in: Aug. 2021.

IPCS - INTERNATIONAL PROGRAMME ON CHEMICAL SAFETY - INCHEM. Available at: <http://www.inchem.org/>.
Access in: Aug. 2021.

IUCLID - INTERNATIONAL UNIFORM CHEMICAL INFORMATION DATABASE. [S.1.]: European chemical Bureau.
Available at: <http://ecb.jrc.ec.europa.eu>.

NIOSH - NATIONAL INSTITUTE OF OCCUPATIONAL AND SAFETY. International Chemical Safety Cards.
Available at: <http://www.cdc.gov/niosh/>. Access in: Aug. 2021.

TOXNET - TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available at: <http://chem.sis.nlm.nih.gov/>.
Access in: Aug. 2021.