

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

## SAFETY DATA SHEET

**Product:** ESM EPOXY CLASSIC PDA GRAY N6,5 3: 1 BRIGHT

Revision: 03

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### 1 - IDENTIFICATION

GHS Product identifier:	ESM EPOXY CLASSIC PDA GRAY N6,5 3: 1 BRIGHT
Other means of identification:	038167-00
Recommended use of the chemical:	SURFACE PROTECTION AND SMOOTHING.
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 2 Skin Corrosion/Irritation - Category 2 Serious eye damage/eye irritation - Category 1 Skin Sensitization - Category 1 Carcinogenicity - Category 2 Reproductive Toxicity - Category 1B Specific Target Organ Toxicity –Single Exposure - Category 1 and Category 3 - Narcotic Specific Target Organ Toxicity –Repeated Exposure - Category 2 Hazardous to the Aquatic Environment - Acute Hazard - Category 2 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):  
 H225 Highly flammable liquid and vapour.  
 H315 Causes skin irritation.  
 H317 May cause an allergic skin reaction.  
 H318 Causes serious eye damage.  
 H336 May cause drowsiness or dizziness.  
 H351 Suspected of causing cancer.  
 H360 May damage fertility or the unborn child.  
 H370 Causes damage to the blood, to the central nervous system, to the kidneys and to the liver and obtain, read and follow all safety instructions before use.

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H373 May cause damage to the lungs, to the blood and to the central nervous system through prolonged or repeated exposure.  
H401 Toxic to aquatic life.  
H412 Harmful to aquatic life with long lasting effects.

Precautionary  
statement(s):

**PREVENTION:**

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.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
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 + P354 + P338 IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308 + P316 IF exposed or concerned: Get emergency medical help immediately.  
P317 Get medical help.  
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.  
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

It is not expected that product presents specific hazards.

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classification:

### 3 - COMPOSITION/INFORMATION ON INGREDIENTS

#### MIXTURE

Components contributing to the hazard:	2.2-bis(p-hydroxyphenyl)propane-epichlorohydrin copolymer (CAS 25068-38-6): 12.50 - 37.50 %; Xylene (CAS 1330-20-7): 10.01 - 30.02 %; 1.2.4-trimethylbenzene (CAS 95-63-6): 2.57 - 7.70 %; 2-butoxyethanol (CAS 111-76-2): 2.25 - 6.75 %; Butylglycol acetate (CAS 112-07-2): 2.25 - 6.75 %; 1-chloro-4 trifluoromethyl bisphenol a epoxy resin (CAS 025085-99-8): 1.00 - 3.00 %; Titanium dioxide (CAS 13463-67-7): 0.52 - 1.57 % <sup>1</sup> ; Isopropilbenzene (CAS 98-82-8): 0.09 - 0.26 %; Ethylbenzene (CAS 100-41-4): 0.07 - 0.21 %.
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<sup>1</sup>Ingredient not classified as hazardous by the Classification System used, but has an established occupational 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 the eyes with sufficient amount of water immediately for several minutes, keeping the eyes opened. In case of use of contact lenses, remove them, if possible. Keep washing. 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 serious eye damage with burning, tearing and pain. May cause an allergic skin reaction with pruritus and dermatitis. Causes skin irritation with redness, pain and dryness. Causes damage to the blood, central nervous system, kidneys and liver. May cause damage to the blood, central nervous system and lungs through prolonged or repeated exposure, may cause anemia, chronic bronchitis and pneumonitis. 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<sub>2</sub>), foam, water mist and powder.

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Specific hazards arising from the chemical:	Inappropriate: water jet directly. The combustion or 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.

### 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.
<b>For emergency responders:</b>	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. 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

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### Control parameters

Occupational exposure limit:

The values below apply to workplaces.

- Ethylbenzene:

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

NIOSH - REL - TWA: 100 ppm;

NIOSH - REL - STEL: 125 ppm;

ACGIH - TLV - TWA: 20 ppm.

- Isopropilbenzene:

OSHA - PEL - TWA: 50 ppm; 245 mg/m<sup>3</sup>;

NIOSH - REL - TWA: 50 ppm;

ACGIH - TLV - TWA: 5 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>.

- 2-butoxyethanol:

OSHA - PEL - TWA: 50 ppm; 240 mg/m<sup>3</sup>;

NIOSH - REL - TWA: 5 ppm;

ACGIH - TLV - TWA: 20 ppm.

- Butylglycol acetate:

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.

Ca: Potential occupational carcinogen.

B63: See NIOSH Intelligence Bulletin 63;

AA: See NIOSH REL Appendix A.

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.

- 2-butoxyethanol:

ACGIH - BEI: Determinant: Butoxyacetic acid (BAA) in urine. Sampling Time: End of shift. Index: 200.00 mg/g creatine.

- 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:

- 2-butoxyethanol:

IDLH (NIOSH - 2010): 700 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

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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.

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: < 23 °C (73.4 °F) - Closed cup.

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.

Relative vapour density: Not available.

Density and/or relative density: Not available.

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Particle characteristics: Not applicable.

Other information: Absolute density: 1.07 to 1.15 g/cm<sup>3</sup>.

### 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: Xylene: Risco de explosão quando em contato com ácido nítrico e hexafluoreto de urânio. Pode reagir perigosamente com agentes oxidantes e ácido sulfúrico. Isopropilbenzene: Reage com agentes oxidantes, ácido nítrico e ácido sulfúrico. 2-butoxyethanol: Pode reagir perigosamente com alumínio e agentes oxidantes. Pode formar peróxidos em contato com o ar. Ethylbenzene: Reage violentamente com materiais oxidantes.

Conditions to avoid: Elevated temperatures. Contact with incompatible materials.

Incompatible material: Acids, Aldehydes, Alkali metals, Alkaline metals, Aluminum, Amines, Base, Chromium trioxide, Compounds with high affinity for hydroxyl groups, Hydrochloric compounds, Hydrogen fluoride, Hydrogen peroxide, Nitric acid, Nitrogen dioxide, Oxidizing Agents, Oxygen, Oxygen difluoride, Perchlorates, Sodium, Sodium dichromate, Sulphuric acid and Xenon hexafluoride.

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 Vapours (4h): > 20 mg/L.

Skin corrosion/irritation: Causes skin irritation with redness, pain and dryness.

Serious eye damage/irritation: Causes serious eye damage with burning, tearing and pain.

Respiratory or skin sensitization: May cause an allergic skin reaction with pruritus and dermatitis.  
It is not expected that the product causes respiratory sensitization.

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

Carcinogenicity: Suspected of causing cancer.  
Information regarding to :  
- Ethylbenzene:  
Possibly carcinogenic to humans (Group 2B - IARC).

Reproductive toxicity: May damage fertility or the unborn child.  
Information regarding to :  
- 2-butoxyethanol:  
A study carried out on oral mice showed that the substance does not cause adverse effects on reproduction or development.  
- Ethylbenzene:

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A study conducted in mice showed that the substance causes adverse effects on fetal development.

STOT - Single exposure:

Causes damage to the blood, central nervous system, kidneys and liver. 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:

May cause damage to the blood, central nervous system and lungs through prolonged or repeated exposure, may cause anemia, chronic bronchitis and pneumonitis.

Aspiration Hazard:

It is not expected that the product presents aspiration hazard.

### 12 - ECOLOGICAL INFORMATION

Toxicity:

Toxic to aquatic life.

Harmful to aquatic life with long lasting effects.

Information regarding to :

- 2,2-bis(p-hydroxyphenyl)propane-epichlorohydrin copolymer:

EC<sub>50</sub> (*Daphnia magna*, 48h): 1.1 - 2.8 mg/L;

ErC<sub>50</sub> (*Pseudokirchneriella subcapitata*, 72h): 1.96 mg/L;

LC<sub>50</sub> (*Oncorhynchus mykiss*, 96h): 2.3 - 3.6 mg/L.

- Xylene:

NOEC (*Oncorhynchus mykiss*, 56 d): > 1 mg/L;

NOEC (*Ceriodaphnia dubia*, 7 d): > 1 mg/L;

LC<sub>50</sub> (*Lepomis macrochirus*, 96h): 19 mg/L;

EC<sub>50</sub> (Crustacea, 48h): 8.5 mg/L.

- 1,2,4-trimethylbenzene:

EC<sub>50</sub> (*Daphnia magna*, 48h): 3.6 mg/L;

LC<sub>50</sub> (*Pimephales promelas*, 96h): 7.72 mg/L.

Persistence and degradability:

It is expected that the product presents persistence and it is not considered readily biodegradable.

Information regarding to :

- 1,2,4-trimethylbenzene:

Degradation rate: 4% in 28 days.

Bioaccumulative potential:

Presents low bioaccumulative potencial in aquatic organisms.

Information regarding to :

- 2,2-bis(p-hydroxyphenyl)propane-epichlorohydrin copolymer:

log K<sub>ow</sub>: 2.92

- Xylene:

BCF: 6

log K<sub>ow</sub>: 3.09

- 1,2,4-trimethylbenzene:

BCF: 31

log K<sub>ow</sub>: 3.78.

Mobility in soil:

Not determined.

Other adverse effects:

There are not known other environmental effects for this product.

### 13 - DISPOSAL CONSIDERATIONS

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### 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: <ul style="list-style-type: none"> <li>• Recommendations on the Transport of Dangerous Goods.</li> </ul>
<b>Railway regulations:</b>	COTIF - Convention concerning International Carriage by Rail: <ul style="list-style-type: none"> <li>• Appendix C: RID - Regulations concerning the International Carriage of Dangerous Goods by Rail</li> </ul>
<b>Sea:</b>	IMO - International Maritime Organization: <ul style="list-style-type: none"> <li>• IMDG Code - International Maritime Dangerous Goods Code.</li> </ul>
<b>Air:</b>	IATA - International Air Transport Association: <ul style="list-style-type: none"> <li>• DGR - Dangerous Goods Regulation.</li> </ul>
UN number:	Not classified as hazardous to transport in different modals.
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 October 2021.

#### Change Control:

Version	Elaboration	Changes
03	10/26/2021	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;

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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;  
IARC - International Agency for Research on Cancer;  
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;  
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: Oct. 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: Oct. 2021.

HSDB - HAZARDOUS SUBSTANCES DATA BANK. Available at: <http://pubchem.ncbi.nlm.nih.gov/>. Access in: Oct. 2021.

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

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

IUCLID - INTERNATIONAL UNIFORM CHEMICAL INFORMATION DATABASE. [S.1.]: European chemical Bureau. Available at: <http://ecb.jrc.ec.europa.eu>. Access in: Oct. 2021.

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

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

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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. Disponível em: < <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:353:0001:1355:en:PDF> >. Access in: Oct. 2021.

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