

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

SAFETY DATA SHEET

Product: MetalShield Green Leaf Bright

Revision: 01

Date: 2020/05/08

Pages: 1/10

1 - IDENTIFICATION

GHS Product identifier: MetalShield Green Leaf Bright

Other means of identification: 039950-00

Recommended use of the chemical: Direct Application to Rust.

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: Carcinogenicity - Category 2*
Flammable Liquids - Category 3
Hazardous to the Aquatic Environment - Acute Hazard - Category 2
Serious eye damage/eye irritation - Category 2B
Skin Corrosion/Irritation - Category 2
Skin Sensitization - Category 1
* Classification due to the presence of Scinex and Ethylbenzene. See section 11 for more information.

Classification system adopted: Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations.

GHS label elements, including precautionary statements

Pictograms:



Signal word: WARNING

Hazard statement(s): H226 Flammable liquid and vapour.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H320 Causes eye irritation.
H351 Suspected of causing cancer.
H401 Toxic 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.

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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.
 P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
 P264 Wash hands thoroughly after handling.
 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 skin with water [or shower].
 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: Get medical advice/attention.
 P321 Specific treatment.
 P332 + P313 If skin irritation occurs: Get medical advice/attention.
 P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
 P337 + P313 If eye irritation persists: 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 + 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:	Distillates (petroleum). hydrotreated light (CAS 64742-47-8): 19.98 - 59.95 %; Titanium dioxide (CAS 13463-67-7): 4.50 - 13.50 % ¹ ; Xylene (CAS 1330-20-7): 4.09 - 12.28 %; Naphtha aliphatic medium (CAS 64742-88-7): 0.47 - 1.42 %; Anjo test (CAS Not applicable): 0.09 - 0.28 %; Scinex (CAS 96-29-7): 0.08 - 0.26 %; Ethanol (CAS 64-17-5): 0.06 - 0.19 %; Toluene (CAS 108-88-3): 0.02 - 0.05 % ² ; Ethylbenzene (CAS 100-41-4): 0.01 - 0.02 % ² .
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¹Ingredient not classified as hazardous by the Classification System used, but has an established occupational exposure limit, according to section 8.

²The ingredient does not contribute to the hazard 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 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: May cause an allergic skin reaction. Causes skin irritation with redness, pain and dryness. Causes eye irritation with redness and tearing.

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: Compatible with carbon dioxide (CO₂), foam, water mist and powder. Inappropriate water jet directly.

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. 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.

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

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Environmental precautions:	suitable respiratory protection mask. Avoid that the spilled material reaches waterways or sewage system.
Methods 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.
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.
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>Ethylbenzene:</u> TLV - TWA (ACGIH, 2012): 20 ppm. - <u>Toluene:</u> TLV - TWA (ACGIH, 2012): 20 ppm. - <u>Ethanol:</u> TLV - STEL (ACGIH, 2015): 1000 ppm. - <u>Xylene:</u> TLV - TWA (ACGIH, 2015): 100 ppm; TLV - STEL (ACGIH, 2015): 150 ppm. - <u>Titanium dioxide:</u> TLV - TWA (ACGIH, 2015): 10 mg/m ³ .
Biological limit:	- <u>Ethylbenzene:</u> BEI (ACGIH, 2012): Mandelic + phenylglyoxylic acids in urine (end of journey): 0.15

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g/g creatinine. Ne.

- Toluene:

BEI (ACGIH, 2012): Toluene in blood (Prior to last shift of workweek): 0.02 mg/L

Toluene in urine (end of shift): 0.03 mg/L

o-Cresol in urine (end of shift): 0.3 mg/g creatinine B.

- Xylene:

BEI (ACGIH, 2015): Methylhipuric acids in urine (end of shift): 2.5 g/g creatinine.

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

B: The determinant may be present in biological specimens collected from subjects who have not been occupationally exposed, at a concentration which could affect the interpretation of the results. Such background concentrations are incorporated in the BEI value.

Other limits and values:

- Ethanol:

IDLH (NIOSH, 2010): 3300 ppm (LEL)

Appropriate

engineering controls:

Provide mechanical ventilation and direct exhaust system to the outside environment. These measures help reduce the exposure to the product. Maintain atmospheric concentrations, of the constituents of the product, below the indicated occupational exposure limits. 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, viscous.

Color: Not available.

Odour: Not available.

Melting point/freezing point: Not available.

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

Flammability: Not applicable.

Lower and upper explosion: Not available.

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limit/flammability limit:	
Flash point:	38 °C (100.4 °F) - closed cup.
Auto-ignition temperature:	Not available.
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 available.
Other information:	Absolute density: 1.05 to 1.15 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:	Xylene: Risk of explosion when in contact with nitric acid and uranium hexafluoride. You could dangerously react with oxidizing agents and sulfuric acid. Naphtha (petroleum), hydrodesulfurized heavy: Dangerous reactions are not known for the product.
Conditions to avoid:	Elevated temperatures. Contact with incompatible materials.
Incompatible material:	2,4-dinitrotoluene, Acids, Alkaline metals, Aluminum, Ammonia, Concentrated oxygen, Halogen, Nitric acid, Oxidizing Agents, Oxygen and Sulphuric acid.
Hazardous decomposition products:	There are not known hazardous decomposition products.

11 - TOXICOLOGICAL INFORMATION

Acute toxicity:	Product not classified as acute toxic by oral. ATEmix (Oral): > 5000 mg/kg.
Skin corrosion/irritation:	Causes skin irritation with redness, pain and dryness.

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Serious eye damage/irritation:	Causes eye irritation with redness and tearing.
Respiratory or skin sensitization:	May cause an allergic skin reaction. 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.
Reproductive toxicity:	It is not expected that the product presents reproductive toxicity.
STOT - Single exposure:	It is not expected that the product presents specific target organ toxicity by single exposure.
STOT - Repeated exposure:	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration Hazard:	It is not expected that the product presents aspiration hazard.

12 - ECOLOGICAL INFORMATION

Toxicity:	<p>Toxic to aquatic life. Information regarding to :</p> <ul style="list-style-type: none"> - <u>Distillates (petroleum), hydrotreated light:</u> EC₅₀ (<i>Daphnia magna</i>, 48h): 1.4 mg/L; LC₅₀ (<i>Oncorhynchus mykiss</i>, 96h): 2-5 mg/L. - <u>Xylene:</u> NOEC (<i>Oncorhynchus mykiss</i>, 56 days): > 1 mg/L; NOEC (<i>Ceriodaphnia dubia</i>, 7 days): > 1 mg/L; LC₅₀ (<i>Lepomis macrochirus</i>, 96h): 19 mg/L; EC₅₀ (<i>Crustacea</i>, 48h): 8.5 mg/L. - <u>Naphtha aliphatic medium:</u> ErC₅₀ (<i>Green algae</i>, 96h): > 100 mg/L; LC₅₀ (<i>Amphiprion ocellaris</i>, 96h): > 100 mg/L; EC₅₀ (<i>Acartia tonsa</i>, 48h): 100 mg/L. - <u>Scinex:</u> EC₅₀ (<i>Daphnia magna</i>, 48h): > 100 mg/L; LC₅₀ (<i>Amphiprion ocellaris</i>, 96h): > 100 mg/L. - <u>Ethanol:</u> LC₅₀ (<i>Fish</i>, 96h): > 100 mg/L. - <u>Toluene:</u> EC₅₀ (<i>Daphnia magna</i>, 48h): 3.78 mg/L; LC₅₀ (<i>Oncorhynchus kisutch</i>, 96h): 5.5 mg/L. - <u>Ethylbenzene:</u> NOEC (<i>Ceriodaphnia dubia</i>, 7 days): 1 mg/L; LC₅₀ (<i>Fish</i>, 96h): 4.2 mg/L; ErC₅₀ (<i>Selenastrum capricornutum</i>, 72h): 4.6 mg/L; EC₅₀ (<i>Crustacea</i>, 48h): 4.75 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 :

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- Xylene:
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: 1263

Proper shipping name: PAINT RELATED MATERIAL

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: 1263

Proper shipping name: PAINT RELATED MATERIAL

Primary risk class or division: 3

Subsidiary risk class or division: NA

Packing group: III

Sea: IMO - International Maritime Organization:
• IMDG Code - International Maritime Dangerous Goods Code.

UN number: 1263

Proper shipping name: PAINT RELATED MATERIAL

Primary risk class or division: 3

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division:

Subsidiary risk class NA
or division:

Packing group: III

EmS: F-E,S-E

Environmental hazards: The product is not considered a marine pollutant.

Air: IATA - International Air Transport Association:
• DGR - Dangerous Goods Regulation.

UN number: 1263

Proper shipping name: PAINT RELATED MATERIAL

Primary risk class or division: 3

Subsidiary risk class NA
or division:

Packing group: III

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 May 2020.

Change Control:

Version	Publication Date	Changes
01	06/05/2020	Elaboration

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%;

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IARC - International Agency for Research on Cancer;
IDLH - Immediately Dangerous to Life or Health;
Kow - Octanol/Water partition coefficient;
LC₅₀ - Lethal Concentration 50%;
LEL - Lower Explosive Limit;
NIOSH - National Institute for Occupational Safety and Health;
NOEC - No Observed Effect Concentration;
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. Disponível em: < <http://echa.europa.eu/web/guest> >. Access in:
Access in: May. 2020.

GESTIS - SUBSTANCE DATABASE. Disponível em: < [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: Access in:
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HSDB - HAZARDOUS SUBSTANCES DATA BANK. Available at: <http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB>. Access in: May. 2020.

IARC - INTERNATIONAL AGENCY FOR RESEARCH ON CANCER. Available at:
<http://monographs.iarc.fr/ENG/Classification/index.php>. Access in: May. 2020.

IPCS - INTERNATIONAL PROGRAMME ON CHEMICAL SAFETY - INCHEM. Available at: <http://www.inchem.org/>.
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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: May. 2020.

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