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1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Ecofinisher

Catalogue Number(s): 069391 - package 1 liter

069392 - package 5 liters 069393 - package 20 liters

Recommended main uses for the mixture: Finishing solution for offset printing plate protection after

processing.

Manufacturer: IBF - INDÚSTRIA BRASILEIRA DE FILMES

Address: Rua Lauro Muller, 116 10° andar CEP 22290 900 Rio de Janeiro Brasil

Phone: 55 21 2103-1000

SDS prepared by: IBF INDÚSTRIA BRASILEIRA DE FILMES

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2. HAZARDS IDENTIFICATION

Classification system adopted on the basis of ABNT NBR 14725-2. Hazard information is based on information from the ingredients.

2.1 Classification of the mixture:

Reproductive toxicity - Category, H361

2.2 Element GHS label:



Word of warning:

Attention

Sentence of danger:

H361 - Suspected of damaging fertility or the unborn child.

Precautionary statements: Prevention.

P201 - Obtain specific instructions before use.

P202 - Do not handle the product before you read and understand all safety precautions.

P280 - Wear protective gloves / protective clothing / eye protection / face protection.

Precautionary statements: emergency response.

P308 + P313 - IF exposed or concerned: Get medical attention



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Precautionary statements: storage.

P405 - Store in a lockable room.

Precautionary statements: disposal.

P501 - Dispose of contents / container in local licensed by the environmental agency.

2.3 Other hazards:

None known.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Product Name: Ecofinisher

This product is a mixture: Wash solution thermal lithographic printing plates.

Chemical nature: water-based solution.

Weight% Component (CAS Registry No.)

10 - 15 Dextrin (9004-53-9) 0,1 - 1,0 Boric acid (10043-35-3)

Note: Exact percentage (concentration) of composition has been withheld as a trade secret is required.

4. FIRST AID MEASURES

4.1 First aid measures:

Inhalation: Transfer to airy environment. Seek medical advice if symptoms persist.

Skin contact: Rinse thoroughly with water for at least 15 minutes. Remove all contaminated clothing.

Eye contact: Rinse thoroughly with water, holding the eyelid open for at least 15 minutes.

Ingestion: Rinse mouth. Do not induce vomiting, seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed:

In normal use, adverse reactions are not expected.

4.3 Notes to physician:

In all cases emergency medical assistance should be provided.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing Media:

Dry powder, alcohol-resistant foam, carbon dioxide (CO₂), water.

5.2 Specific hazards of the substance or mixture:

Do not use water jet as it may spread the fire.

In case of fire the thermal decomposition may cause the formation of dangerous vapors, carbon dioxide, carbon monoxide, and boron oxides.

Product is not combustible. Collect water contaminated fire fighting separately. Should not be discharged into drains.

5.3 Protective measures of the fire fighting team:

Normal fire fighting clothing.



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6. MEASURES SPILL OR LEAK

6.1 Personal precautions, protective equipment and emergency procedures.

6.1.1 Advice for non-emergency: Keep people away. Isolate the area. Avoid contact with the material and stay upwind. Check in Section 8 individual precautions. Put on appropriate personal protective equipment. **6.1.2 Advice for emergency responders:** Use personal protective equipment. Ensure adequate ventilation.

Remove all sources of ignition. Evacuate personnel to safe areas.

6.2 Environmental precautions.

Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas.

6.3 Methods and materials for containment and cleaning.

Transfer the spilled materials (solid and liquid) into suitable containers and deliver to an authorized manager for waste disposal. Collect the debris with absorbent materials.

Contain spilled material with earth dikes or sand.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling.

Use in well ventilated area. During application of chemicals should be subject to the usual precautionary measures for adequate protection. If accidental contact, the site should be washed immediately.

Emergency showers and eyewash should be available in appropriate locations.

Wash hands and face thoroughly after handling. Wash contaminated clothing before reuse. When using do not eat, drink or smoke.

This product is used by competent professionals, under strict conditions.

7.2 Conditions of safe storage, including any incompatibilities.

Keep container tightly closed. Protect from direct sunlight.

Keep container in a well-ventilated place.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

8.1 Control Parameters:

The control limits are for substances.

Exposure Limits ACGIH TLV OSHA PEL-TWA

 $\begin{array}{ccc} \text{Boric Acid} & 2 \text{ mg/m}^3 & 5 \text{ mg/m}^3 \\ \text{Dextrin} & \text{not established} & 15 \text{ mg/m}^3 \end{array}$

Source: Boric acid - TOXNET - HSDB - Hazardous Substances Data Bank.

8.2 Engineering measures:

Recommended Decontamination Facilities: Eyewash, safety shower and washing facilities. Use only with adequate ventilation.



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8.3 Personal protection measures:

Eye / Face Protection: It is recommended industrial hygiene practice to minimize eye contact. Wear safety glasses with side shields or goggles broad view.

Skin Protection: It is recommended industrial hygiene practice to minimize skin contact. Use impermeable gloves and protective clothing appropriate for risk of exposure. Use gloves resistant to chemicals. Gloves must be inspected prior to use.

Respiratory protection: It must be keep good local ventilation. Respiratory protection should be worn when there is the potential to exceed the exposure limits. If there are no applicable exposure limits, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. Respiratory protection is not required for most working conditions, but use approved purifying respirator air when handling at elevated temperatures without adequate ventilation.

The following respirators with air purifiers must be effective: Organic vapor cartridge with a prefilter for particulates.

Thermal hazards: None known.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Lightly brown liquid

Odor: Slight odor weak

pH: 2,42 to 2,52

Melting / Freezing Point: Not available.

Initial boiling point and boiling range temperature: Not available.

Flash Point: Not applicable. Evaporation Rate: Not available.

Flammability (solid, gas): Not applicable.

Lower limit / upper flammability or explosive limits: Not applicable.

Vapor Pressure: Not available. Vapor Density: Not available.

Relative density: 1.040 to 1.044 g/cm³ at 20 ° C

Solubility in Water: Complete

-n-octanol/água Partition coefficient: Not available.

Auto-ignition temperature: Not available. Decomposition Temperature: Not available.

Viscosity: Not available.

10. STABILITY AND REACTIVITY

10.1 Reactivity

There is no information available.

10.2 Stability

Chemically stable product at ambient conditions.

10.3 Possibility dangerous reactions

Boric acid



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The product mixed with potassium can explode by impact. There may be weak reaction with acids, which may cause corrosion in metal base. Strong reaction with reducing agents, metal hydrides and metal alkalis.

10.4 Conditions to be avoided

Store the goods away from incompatible materials and high heating locations.

10.5 Incompatible materials

Dextrin

Oxidizing agents.

Boric acid

Alkali carbonates, metal hydroxides.

10.6 Hazardous decomposition products

Boric acid

It is a stable product, but loses water when heated, first forming metaboric acid (HBO₂), and the heating continues, converts to boric oxide (B_2O_3).

11. TOXICOLOGICAL INFORMATION

The information mix refers to the toxicological data of hazardous ingredients of the mixture based on information from manufacturers.

11.1 Acute toxicity:

Boric acid

LD50, oral, rat - 2660 mg / kg

11.2 Corrosion / skin irritation:

No data available.

11.3 Serious eye damage / irritation:

No data available.

11.4 Respiratory sensitization or skin:

No information available.

11.5 Germ cell mutagenicity:

No information available.

11.6 Carcinogenesis:

No information available.

11.7 Reproductive toxicity:

Reproductive toxic to humans.

11.8 toxicity for specific target organs - single exposure:

No information available.

11.9 toxicity for specific target organs - repeated exposure:

No information available.

11.10 Aspiration hazard:

No information available.

12. ECOLOGICAL INFORMATION

The mixture information refers to data of hazardous ingredients of the mixture based on the information of the manufacturer.



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12.1 Ecotoxicity:

Boric acid

Toxicity to fish: LC50 - Ptychocheilus Lucius - 279 mg / 1 - 96 h CL0 - Lepomis macrochirus -> 1,021 mg / 1 - 96 h

Toxicity to daphnia and other invertebrates water: LC50 - Daphnia magna - 53.2 mg / 1 - 21 d EC50 - Daphnia magna - 133 mg / 1 - 48 h.

12.2 Persistence and degradability:

No information available.

12.3 Bioaccumulative potential:

No information available.

12.4 Mobility in soil:

No information available.

12.5 Other adverse effects:

No information available.

13. CONSIDERATIONS DISPOSAL

The discharge, treatment or disposal may be subject to national, state and local laws. Download to sewer may require approval of the licensing authority and may require pretreatment.

If allowed, refer to an authorized manager for waste disposal.

Packaging that can not be fully sanitized should receive the same treatment applied to the product.

Recondition or dispose of empty container in accordance with government regulations.

14. TRANSPORT INFORMATION

Road and Rail: DOT.

Not regulated

Maritime Transport: IMDG

Not regulated

Air Transport: ICAO / IATA

Not regulated

15. REGULATIONS

Transport regulations in Brazil: Resolution 420:2004 - ANTT.

Decree 96.044/88 Department of Transportation in Brazil.

CONAMA 005/1993

NBR 10.004/2004 - Waste Classification.

This information document is in accordance with the NBR 14725: 2014 Part 1 to 4.

IMDG Code - 2012 Edition - IMO (International Maritime Organization).

Dangerous Goods Regulations - 55nd Edition - IATA (International Air Transport Association).

Dangerous Goods by Road (ADR) - Applicable since January 1, 2011 - UNECE (United Nations

Economic Commission for Europe).



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16. OTHER INFORMATION

Important information, but not specifically described in the previous sections. This information document is in accordance with the NBR 14725: 2014 Part 4.

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Review: 3

References:

SDS from suppliers of substances.

United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS) -6 th Edition.

http://toxnet.nlm.nih.gov

Captions and abbreviations:

ANTT - National Agency of Land Transport

IMDG - International Maritime Dangerous Goods

ICAO / IATA - International Civil Aviation Organization / International Air Transport Association.

LD50 - lethal dose 50%

ACGIH - American Conference of Governmental Industrial Hygienists, Inc.

TLV - threshold limit value

OSHA - Occupational Safety and Health Administration

The product should be stored, handled and used in accordance with proper industrial hygiene practices and in conformity with legal regulations.

The information contained herein are provided without warranty of any kind. Users should consider these data only as a supplement to other information gathered by them and must make their own decisions as to the applicability and completeness of such information, taking into account all possible sources, the correct use and disposal of materials, safety and health of their employees and customers and the protection of the environment.