

**SAFETY DATA SHEET**

**Product: ETHANOL, ETHYL ALCOHOL, METHYL CARBINOL**

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**1- IDENTIFICATION**

GHS Product identifier:	ETHANOL, ETHYL ALCOHOL, METHYL CARBINOL
Recommended use of the chemical and restrictions on use:	FOOD INDUSTRY: Production of aromatic essence and plant extracts; Production of compound drinks and liqueurs; Production of vodkas, gins, steinheger, cognacs, etc. PERFUMERY AND COSMETICS INDUSTRY: Production of aromatic essence and extracts; Production of perfumes, cologne, deodorants, etc; Cosmetics production. PHARMACOLOGY: Production of active ingredients and herbal extracts; Handling pharmacy; Asepsis.
Supplier's details:	AGRO INDUSTRIAL TARUMÃ LTDA
Address:	Rod. Sebastião Teixeira Coelho, Km 4, S/Nº - Bairro Tarumã São Pedro do Turvo – SP – CEP: 18944-899 – Caixa Postal 36
Phone number(s):	(14) 3377-9300
Emergency phone number:	(14) 3377-9300

**2- HAZARD IDENTIFICATION**

Classification of the substance or mixture:	Flammable liquids - Category 2 Eye damage/irritation – Category 2A
Classification system adopted:	Globally Harmonized System of Classification and Labelling of Chemicals (GHS), United Nations.

**GHS label elements, including precautionary statements**

Pictograms:



Signal word:

**DANGER**

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Hazard statement(s): H225 Highly flammable liquid and vapour.  
H319 Causes serious eye irritation.

**PREVENTION:**

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.

P264 Wash hands thoroughly after handling.

P280 Wear protective gloves, protective clothing, eye protection and face protection.

Precautionary statement(s):

**RESPONSE:**

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected are as with water.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P317 If eye irritation persists: Get medical help.

P370 + P378 In case of fire: Use alcohol resistant foam, water fog, dry chemical powder or carbon dioxide (CO<sub>2</sub>) to extinguish.

**STORAGE:**

P403 + P235 Store in a well-ventilated place. Keep cool.

**DISPOSAL:**

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

Other hazards which do not result in classification:

The product does not have other hazards.

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**3- COMPOSITION/INFORMATION ON INGREDIENTS****SUBSTANCES**

Common chemical name: Ethanol

Common name(s),  
synonym(s) of the substance: Ethyl alcohol; Methylcarbinol

CAS number: 64-17-5

Impurities and stabilizing additives which are themselves classified and which contribute to the classification of the substance: The product does not have impurities which contribute to hazards.

**4- FIRST-AID MEASURES****Routes of exposure**

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Monitor respiratory function. If the victim is breathing hard, provide oxygen. If necessary, apply artificial respiration. Call a POISON CENTER or doctor/physician if you feel unwell. Take this SDS.

Skin: Remove all contaminated clothing immediately. Wash exposed skin with enough water to remove the material. In case of irritation: Consult a doctor. Take this SDS.

Eye: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do and rinse again. If eye irritation persists: Get medical advice/attention. Take this SDS.

Ingestion: Rinse the victim's mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a POISON CENTER or doctor if you feel unwell. Take this SDS.

Most important symptoms/effects, acute and Causes serious eye irritation with redness and pain.

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delayed:

Indication of immediate medical attention and special treatment needed, if necessary:

Avoid contact with the product while helping the victim. If necessary, the symptomatic treatment should comprise, mainly, supportive measures such as correction of electrolyte and metabolic disturbances, besides respiratory assistance. In case of contact with the product, do not rub the affected site.

**5- FIRE-FIGHTING MEASURES**

Suitable extinguishing media:

Suitable: Compatible with alcohol resistant foam, water fog, dry chemical powder and carbon dioxide (CO<sub>2</sub>).

Not recommended: Water directly on the burning liquid.

Specific hazards arising from the chemical:

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, basements, etc. 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. The combustion of the chemical products or containers may form toxic and irritant gases such as carbon monoxide and carbon dioxide.

Special protective actions for fire-fighters:

Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing. Keep containers cool with water spray.

**6- ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

For non-emergency personnel:

Remove sources of ignition. Evacuate the area within a radius of at least 50 meters. Keep unauthorized persons away from the area. Stop the leakage, if it can be done without risk. Prevent sparks or flames. Do

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not smoke. Do not touch damaged containers or spilled material without the use of appropriate clothing. Avoid exposure to the chemical. Stay away from low areas, with the wind behind you. Use personal protective equipment as described in section 8.

For emergency responders:

Use personal protective equipment with panoramic splash goggles, PVC gloves and boots and suitable protective clothing. It is recommended to wear a respiratory protection mask with a filter against organic vapors.

**Environmental precautions:** Avoid spilled material reaches waterways and sewers.

**Methods and materials for containment and cleaning up:**

Use water mist or vapor suppressing foam to reduce the dispersion of the vapors. Use natural barriers or containment of spillage. Collect spilled product and place in appropriate containers. Adsorb the remaining product with dry sand, earth, vermiculite or other inert material. Place the adsorbed material in appropriate containers and remove them to a safe place. Use non-sparking tools to collect the absorbed material. For disposal, proceed according 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 dusts/vapors/mists formation. Avoid exposure to the chemical. Avoid contact with incompatible materials. Use personal protective equipment as described in Section 8.

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

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tools. Avoid the accumulation of electrostatic charges. Use electrical equipment, ventilation and lighting explosion proof.

Adequate conditions:

Store in a well ventilated place away from sunlight. Keep container closed. Keep stored at room temperature that does not exceed 35°C. It is not necessary the addition of stabilizers and antioxidants to ensure the durability of the product. Keep away from incompatible materials. This product may react, in a dangerous manner, with some incompatible materials as outlined in Section 10.

Packaging compatibilities:

Recommended: Small quantities: glass. Large quantities: carbon steel and stainless steel.  
 Not recommended: Rubber and plastic containers.

**8- EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

Occupational exposure limit:	Chemical or common name	TLV – STEL (ACGIH, 2020)
		Ethanol

Biological limit: Not established.

Other limits and values: - Ethanol:  
**IDLH (NIOSH, 2017): 3300 ppm [10% LEL]**

Appropriate engineering controls: Promote direct mechanical ventilation and exhaust system to the outside environment. These measures help reduce exposure to 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: Panoramic splash goggles.

Skin protection: PVC gloves and boots and suitable protective clothing.

Respiratory protection: Half-face or full face mask with filter against organic vapors (VO). If there is a possibility of uncontrolled emission of the product or in case

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of entry into unknown environments, a respirator with air supply, entire facepiece, operated in positive pressure mode should be used; Any self-contained respirator (SCBA), of an entire facepiece, operated in positive pressure mode can also be used.

Thermal hazards: Does not present thermal hazards.

**9- PHYSICAL AND CHEMICAL PROPERTIES**

Physical state: Clear liquid.

Colour: Colorless.

Odour: Characteristic.

Melting point/freezing point: -114.5°C.

Boiling point or initial boiling point and boiling range: 78.4°C.

Flammability: Not available.

Lower and upper explosion limit /flammability limit: Upper: 19%  
 Lower: 3.3%

Flash point: 13°C (closed cup).

Auto-ignition temperature: 363°C.

Decomposition temperature: Not available.

pH: 5.5 – 7.7.

Kinematic viscosity: Not available.

Solubility: Soluble in water, ethyl ether, chloroform, alcohols and acetone.

Partition coefficient n-octanol/water (log value): Log Kow: -0.32.

Vapour pressure: 40 mmHg at 19°C.

Density and/or relative density: 0.806 – 0.810 at 20°C (water 4°C = 1).

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Relative vapour density:	1.59 (air = 1).
Particle characteristics:	Not available.
Other information:	Superficial tension: 28.9 dinas/cm at 20°C.

### 10- STABILITY AND REACTIVITY

Reactivity:	Product not reactive.
Chemical stability:	Stable product under normal conditions of temperature and pressure.
Possibility of hazardous reactions:	Risk of explosion in contact with alkali metals, alkali oxides and nitric acid.
Conditions to avoid:	High temperatures, ignition sources and contact with incompatible materials.
Incompatible material:	Strong oxidizers, calcium hypochlorite, silver oxide, ammonia, alkali metals, alkali oxides and nitric acid.
Hazardous decomposition products:	Decomposition can release monoxide and carbon dioxide.

### 11- TOXICOLOGICAL INFORMATION

Acute toxicity:	The product has not been classified as acute toxic by oral and inhalation route. The product is not expected to present acute toxicity by dermal route. LD <sub>50</sub> (oral, rats): > 5000 mg/kg LC <sub>50</sub> (inhalation, rats, 4h): > 20 mg/L
Skin corrosion/irritation:	The product is not expected to cause skin irritation.
Serious eye damage/irritation:	Causes serious eye irritation with redness and pain.
Respiratory or skin sensitization:	The product is not expected to cause respiratory or skin sensitization.
Germ cell mutagenicity:	The product is not expected to cause germ cell mutagenicity.



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Carcinogenicity:	Carcinogenic to humans (Group 1 - IARC) only for chronic alcohol consumption. Animal carcinogen confirmed with unknown relevance to humans (Category A3 - ACGIH).
Reproductive toxicity:	The product is not expected to cause reproductive toxicity. Studies show that the ingestion of alcoholic beverages can damage fertility or the fetus, with fetal malformation after ingesting large quantities of the product, in a habitual way.
STOT - Single exposure:	In high concentrations it can cause nausea, hypotension, tachycardia, vasodilation, dizziness, incoordination, headache, confusion, stupor and coma.
STOT - Repeated exposure:	Ingestion of high doses of alcoholic beverages can cause liver damage by repeated or prolonged exposure, which can cause liver cirrhosis.
Aspiration hazard:	The product is not expected to cause aspiration hazard.

## 12- ECOLOGICAL INFORMATION

Toxicity:	The product has not been classified as toxic to the aquatic environment. LC <sub>50</sub> (fish, 96h): > 100 mg/L
Persistence and degradability:	The product does not have persistence and it is considered readily biodegradable. Degradation rate: 84% in 20 days.
Bioaccumulative potential:	The product presents high bioaccumulative potential in aquatic organisms. BCF: 3000 Log <sub>kow</sub> : - 0.32
Mobility in soil:	High soil mobility is expected.
Other adverse effects:	There are not known adverse environmental effects of the product.

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### 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. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

### 14- TRANSPORT INFORMATION

**Road:** UN - “United Nations”  
Recommendations on the TRANSPORT OF DANGEROUS GOODS.  
Model Regulations

UN Number: 1170

UN Proper Shipping Name: ETHANOL (ETHYL ALCOHOL)

Transport hazard class(es): 3

Packing group: II

**Rail:** Convention concerning International Carriage by Rail (COTIF)  
Appendix C - Regulations concerning the International Carriage of  
Dangerous Goods by Rail - RID

UN Number: 1170

UN Proper Shipping Name: ETHANOL (ETHYL ALCOHOL)

Transport hazard class(es): 3

Packing group: II

**Sea:** *IMO – International Maritime Organization*  
*International Maritime Dangerous Goods Code (IMDG Code)*

UN Number: 1170

UN Proper Shipping Name: ETHANOL (ETHYL ALCOHOL)

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Transport hazard class(es):	3
Packing group:	II
Marine pollutant:	The product is not considered a marine pollutant.
EmS:	F-E, S-D
<b>Air:</b>	<i>IATA - International Air Transport Association Dangerous Goods Regulation (DGR)</i>
UN Number:	1170
UN Proper Shipping Name:	ETHANOL
Transport hazard class(es):	3
Packing group:	II
Environmentally hazardous:	The product is not considered environmentally hazardous.
Special precautions for user:	There is no need of special precautions.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006. - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.

### 15- REGULATORY INFORMATION

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

### 16- OTHER INFORMATION

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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.

SDS elaborated in June, 2020.

**Change control:**

Version	Publication date	Changes
00	16/06/2020	Translation

**Abbreviations:**

**ACGIH** – American Conference of Governmental Industrial Hygienists

**BCF** – Bioconcentration Factor

**CAS** – Chemical Abstracts Service

**IDLH** – Immediately Dangerous to Life or Health

**LC<sub>50</sub>** – Lethal Concentration 50%

**LD<sub>50</sub>** – Lethal Dose 50%

**LEL** – Lower Explosive Limit

**NIOSH** – National Institute of Occupational Safety and Health

**STEL** – Short Term Exposure Limit

**TLV** – Threshold Limit Value

**Bibliographic references:**

AGRO INDUSTRIAL TARUMÃ LTDA, FISPQ – *FICHA DE INFORMAÇÕES DE SEGURANÇA DE PRODUTOS QUÍMICOS*: ETANOL, ÁLCOOL ETÍLICO, METIL CARBINOL, Review: 04, 28 August 2017, Brasil.



**SDS**

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

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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.

Globally Harmonized System of Classification and Labelling of Chemicals (GHS). 8. rev. ed. New York: United Nations, 2019.

NIOSH – NATIONAL INSTITUTE OF OCCUPATIONAL AND SAFETY. International Chemical Safety Cards. Available at: <<http://www.cdc.gov/niosh/>>. Access in: June, 2020.