

SAFETY DATA SHEET ACIDE TARTRIQUE

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SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

1.1. Product identifier

Product name: Acide Tartrique

1.2. Relevant identified uses of the substance or mixture and uses advised against

Industry, wine and food

1.3. Details of the supplier of the safety data sheet

Company details: Institut Œnologique de Champagne
Z.I. de Mardeuil – Allée de Cumières – BP 25
51201 EPERNAY Cedex
FRANCE
Tel: + 33 (0) 3.26.51.96.00.
Fax: + 33 (0) 3.26.51.02.20.
fds@ioc.eu.com

1.4. Emergency telephone number

112

SECTION 2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of EC Regulation 1907/2006 and subsequent amendments. Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

2.2. Label elements



Signal words: Danger

Hazard statements:

H318 Causes serious eye damage.

H315 Causes skin irritation.

P264 Wash . . . thoroughly after handling. (hands)

P280 Wear protective gloves and eye protection.

P302+P352 IF ON SKIN: Wash with plenty of soap and 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.

P310 Immediately call a POISON CENTER or doctor / physician.

P362 Take off contaminated clothing and wash before reuse.

Nr. EC: 201-766-0

2.3. Other hazards

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Components : Tartaric acid 100%

N° CAS : 87-69-4

EC : 201-766-0

3.2. Mixtures

SECTION 4. FIRST AID MEASURES

4.1. Description of first aid measures

EYES: Remove contact lenses, if present Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.

INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.

INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

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

Acute effects

At the date of drawing up of this safety data sheet, no cases of acute human poisoning from exposure to this substance are known. On the basis of the experimental data observed, irritant or corrosives effects may occur when skin and mucous membranes come into contact with the substance (skin, eyes).

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Delayed effects

At the date of drawing up of this safety sheet, no effects in human beings arising from chronic exposure to this substance are known.

4.3. Indication of any immediate medical attention and special treatment needed

Need for medical attention

In case the victim shows serious symptoms call the national emergency service immediately to obtain first aid.

In any case it is recommended to contact a poison control centre to get expert toxicological advice right from the very first steps of first aid. If symptoms persist – even minor ones – get medical attention.

Special treatments and antidotes that must be available at the workplace.

Water for skin and eye wash. Oxygen.

Personal protective equipment for first aid responders

Wear protective clothing to avoid contamination of responders during first aid operations.

Removal and handling of contaminated clothing

In the event of important contamination, remove the clothing and put it into a closed container away from the work area.

SECTION 5. FIREFIGHTING MEASURES

5.1. Extinguishing media

SUITABLE EXTINGUISHING MEDIA

The extinction equipment used should be of the conventional kind: carbon dioxide, foam, powder and nebulised water.

EXTINGUISHING MEDIA WHICH SHALL NOT BE USED FOR SAFETY REASONS

None in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Do not breathe combustion products (carbon oxide, toxic pyrolysis products, etc).

The product is combustible and, when the powder is released into the air in sufficient concentrations and in the presence of a source of ignition, it can create explosive mixtures with air. Fires may start or get worse by leakage of the solid product from the container, when it reaches high temperatures or through contact with sources of ignition.

5.3. Advice for firefighters

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Hardhat with visor, fireproof clothing (fireproof jacket and trousers with ties around arms, legs and waist), work gloves (fireproof, cut proof and antistatic), a depressurised mask with facemask covering the whole of the operator's face or a self-respirator (self-protector) in the event of large quantities of fume.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

If there are no contraindications, spray powder with water to prevent the formation of dust. Avoid breathing vapours/mists/gases.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Use spark-proof mechanical equipment to collect the leaked product and place it in containers for recovery or disposal. If there are no contraindications, use jets of water to eliminate product residues.

Make sure the leakage site is well aired. Check incompatibility for container material in section 7. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Do not smoke while handling and use.

7.2. Conditions for safe storage, including any incompatibilities

Store in a well ventilated place, keep far away from sources of heat, bright flames and sparks and other sources of ignition.

7.3. Specific end use(s)

Information not available.

SECTION 8. EXPOSURE CONTROL / PERSONAL PROTECTION

8.1. Control parameters

Regulatory References:

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction. During the risk assessment process, it is essential to take into consideration the ACGIH occupational exposure levels for inert particulate otherwise classified (PNOC respirable

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fraction: 3 mg/m³; PNOC inhalable fraction: 10 mg/m³). For values above these limits, use a P type filter, whose class (1, 2 or 3) must be chosen according to the outcome of risk assessment. No specific occupational exposure limit values have been set for this substance on a national or European level.

DNEL (Derived No-Effect Level)

Tartaric acid exerts its irritant/corrosive effect without evidence of a dose-response relationship. Hence, available data do not allow to establish a threshold above which the substance exerts its irritant/corrosive effect; consequently, no DNEL value has been set. For a proper management of the risks associated to the occupational use of this substance, a qualitative type of approach appears to be the most appropriate, as described in the Annex to the Safety data sheet.

PNEC (Predicted No-Effect Concentration)

No adverse effect has been observed in studies at the highest recommended concentrations/doses tested; for this reason definition of PNEC values is not required for environmental compartments.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

HAND PROTECTION

In the case of prolonged contact with the product, protect the hands with penetration-resistant work gloves (see standard EN 374).

Work glove material must be chosen according to the use process and the products that may form Latex gloves may cause sensitivity reactions.

SKIN PROTECTION

Wear category II professional long-sleeved overalls and safety footwear (see Directive 89/686/EEC and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

EYE PROTECTION

Wear a hood visor or protective visor combined with airtight goggles (see standard EN 166).

RESPIRATORY PROTECTION

Use a type P filtering facemask, whose class (1, 2 or 3) and effective need, must be defined according to the outcome of risk assessment. (see standard EN 149).

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance: Powder white

Odour: None

Odour threshold: No data available

pH: 2.2

Melting / freezing point: 168 °C

Initial boiling point and boiling range: > 400 °C.

Flash point: > 200 °C.

Evaporation rate: No data available

Flammability (solid, gas) +: non flammable: data referred to flash point and self-ignition show that the substance is not flammable

Upper/lower flammability or explosive limits: not necessary the substance is not flammable.

Vapour pressure: < 5.23·10⁻² mPa = < 5.23·10⁻⁵ Pa < 3.93·10⁻⁷ mmHg (40 °C)

Vapour density: No data available

Relative density: No data available

Solubility(ies): Soluble in Water

Partition coefficient: n-octanol/water: 1,76 g/cm³

Auto-ignition temperature: > 400 °C.

Decomposition temperature: > 170°C

Viscosity: No data available

Explosive properties: No data available

Oxidising properties: No data available

9.2. Other information

SECTION 10. STABILITY AND REACTIVITY

10.1. Reactivity

The product may react exothermically on contact with strong oxidizing agents or reducers, strong acids or bases.

10.2. Chemical stability

Excessively high temperatures can cause thermal decomposition.

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10.3. Possibility of hazardous reactions

See paragraph 10.1.

10.4. Conditions to avoid

Avoid heating the product.

10.5. Incompatible materials

Oxidizing agents or reducers, strong acids or bases.

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, vapours potentially dangerous to health may be released.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute effects: stinging eyes. Symptoms may include: rubescence, edema, pain and lachrymation.

Vapour inhalation may moderately irritate the upper respiratory tract. Contact with skin may cause slight irritation.

Ingestion may cause health problems, including stomach pain and sting, nausea and sickness.

Acute effects: contact with skin may cause: irritation, erythema, edema, dryness and chapped skin. Vapour inhalation may slightly irritate the upper respiratory tract. Ingestion may cause health disorders, including stomach pain and sting, nausea and sickness.

Acute effects: vapour inhalation may irritate the lower and upper respiratory tract and cause cough and respiratory disorders. At higher concentrations it can also cause pulmonary edema. Ingestion may cause health problems, including stomach pain and sting, nausea and sickness.

L(+)-Tartaric Acid

LD50 (Oral): 4360 mg/kg/bw.

SECTION 12. ECOLOGICAL INFORMATION

12.1. Toxicity

L(+)-Tartaric Acid

LC50 (96h): 150 mg/l

EC50 (48h): 230 mg/l

12.2. Persistence and degradability

Several studies in the scientific literature have investigated biodegradability of tartaric acid in water with regulated methods, whereas just one study is available for sodium tartrate. All results confirm biodegradability of such substances, with the exception of a study carried out by Sharma et al reporting a BOD5/COD ratio slightly less than 0,5 (cut-off value between biodegradability and non-biodegradability in accordance with CLP regulation) for tartaric acid. On the whole, such a low value is considered to be due to experimental variability.

Below is a short list of some data obtained from the tests carried out on tartaric acid:

OECD guidelines 301 C (Determination of timely biodegradability) M.I.T.I. ESSAY (C.4-F Method)

- 76% after 14 days (O₂ consumption)
- 100% after 14 days (TOC total organic carbonium removal)
- 100% after 14 days (Tested material)

Readily biodegradable

OECD guidelines 301 C (Determination of timely biodegradability) M.I.T.I. ESSAY (C.4-F Method)

- 75% after 14 days (O₂ consumption)
- 92% after 14 days (TOC total organic carbonium removal)
- 100% after 14 days (Tested material)

Readily biodegradable

Degradation - biochemical oxygen demand (BOD₅)

Readily biodegradable

Hydrolysis

No data are available as to this property. According to column 2 of Annex VIII to REACH Regulations, the study on tartaric acid hydrolysis does not need to be conducted as tartaric acid and its salts are easily biodegradable.

12.3. Bioaccumulative potential

Tartaric acid is an organic acid naturally present in several plants and particularly in grapes, abundant both in its free form and in the form of salt. No bioaccumulation data are available on the relevant aquatic species. Yet, with a measured value of octanol-water partition coefficient (log K_{ow}) < 3, the substance is not expected to be bioaccumulative.

12.4. Mobility in soil

No data on the substance's mobility in soil are available. Such data were not generated in that direct or indirect exposure in soil is unlikely to occur since the expected working conditions assure the absence of environmental release by the substance. Moreover, according to column 2 of annex VIII to REACH Regulations, the study does not need to be conducted as tartaric acid and its salts have a low potential for adsorption, as confirmed by a low octanol-water partition coefficient.

12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

12.6. Other adverse effects

No data available

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SECTION 13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. TRANSPORT INFORMATION

14.1. UN number

Not regulated.

14.2. UN proper shipping name

Not regulated

14.3. Transport hazard class(es)

Not regulated

14.4. Packing group

Not regulated

14.5. Environmental hazards

Not regulated

14.6. Special precautions for user

Not regulated

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not regulated

SECTION 15. REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

The product does not contain ingredients listed as dangerous substances in EC Directives.

15.2. Chemical safety assessment

No.

SECTION 16. OTHER INFORMATION

Complete review of compliance with Regulation (EU) No 453/2010 of 20 May 2010

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Eye Irrit. 2 : Eye irritation, category 2

Skin Irrit. 2 : Skin irritation, category 2

STOT SE 3 : Specific target organ toxicity - single exposure, category 3

H319 : Causes serious eye irritation.

H315 : Causes skin irritation

H335 : May cause respiratory irritation.

Text of risk (R) phrases mentioned in section 2-3 of the sheet:

R36/37/38 : IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.