SAFETY DATA SHEET

Revision Date 09/23/2016 Print Date 04/22/2018

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product name : Uridine 5'-triphosphate trisodium salt hydrate

Product Number : UT1001 CAS Number : 19817-92-6

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

Identified uses : Laboratory chemicals, Synthesis of substances

1.3 Details of the supplier of the safety data sheet

Company : Gojira Fine Chemicals

5386 Majestic Parkway, Ste 7

Bedford heights, OH

Telephone : +1-440-252-5397

Email : docsupport@gojirafc.com

Fax : +1-888-211-5523

1.4 Emergency telephone number

Emergency Phone # : +1-800-255-3924 (ChemTel Contract# MIS7318160

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Not a hazardous substance or mixture.

2.2 GHS Label elements, including precautionary statements

Not a hazardous substance or mixture.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Synonyms : UTP Na₃

Formula : $C_9H_{12}N_2Na_3O_{15}P_3 \cdot xH_2O$

Molecular weight : 550.09 g/mol

Hazardous components

| Component | | Classification | Concentration |
|--------------------------------|---|--|---------------|
| Ethanol | | | |
| CAS-No. EC-No. Index-No. | 19817-92-6 200-578-6 603-002-00-5 | Flam. Liq. 2; Eye Irrit. 2A; H225, H319 | >= 1 - < 5 % |

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice

Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration.

In case of skin contact

Wash off with soap and plenty of water.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

No data available

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing vapours, mist or gas.

For personal protection see section 8.

6.2 Environmental precautions

No special environmental precautions required.

6.3 Methods and materials for containment and cleaning up

Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.

Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

Recommended storage temperature -20 °C

Keep in a dry place.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

| | Components with workplace control parameters | | | | |
|-----------|--|--|------------------------|-----------------------------------|--|
| Component | CAS-No. | Value | Control | Basis | |
| | | | parameters | | |
| Ethanol | 64-17-5 | TWA | 1,000.000000 | USA. ACGIH Threshold Limit Values | |
| | 0 1 11 0 | 1 | · · | (TLV) | |
| | | | ppm | (120) | |
| | | | | | |
| | Remarks | | iratory Tract irritati | | |
| | | Confirmed animal carcinogen with unknown relevance to humans | | | |
| | | TWA | 1,000 ppm | USA. OSHA - TABLE Z-1 Limits for | |
| | | | 1,900 mg/m3 | Air Contaminants - 1910.1000 | |
| | | TWA | 1,000 ppm | USA. Occupational Exposure Limits | |
| | | 1.117 | 1,900 mg/m3 | (OSHA) - Table Z-1 Limits for Air | |
| | | | 1,500 mg/m3 | Contaminants | |
| | | - | / 0 : | <u> </u> | |
| | | The value in mg/m3 is approximate. | | | |
| | | TWA | 1,000.000000 | USA. Occupational Exposure Limits | |
| | | | ppm | (OSHA) - Table Z-1 Limits for Air | |
| | | | 1,900.000000 | Contaminants | |
| | | | mg/m3 | | |
| | | The value in mg/m3 is approximate. | | | |
| | | | | | |
| | | TWA | 1,000.000000 | USA. NIOSH Recommended | |
| | | | ppm | Exposure Limits | |
| | | | 1,900.000000 | | |
| | | | mg/m3 | | |
| | | STEL | 1,000.000000 | USA. ACGIH Threshold Limit Values | |
| | | | ppm | (TLV) | |
| | | | FF.'' | (/ | |
| | | Unner Reen | iratory Tract irritati | on | |
| | | Upper Respiratory Tract irritation | | | |
| | | Confirmed animal carcinogen with unknown relevance to humans | | | |

8.2 Exposure controls

Appropriate engineering controls

General industrial hygiene practice.

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm Break through time: 480 min

Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact Material: Nitrile rubber

Minimum layer thickness: 0.11 mm Break through time: 480 min

Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

No special environmental precautions required.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

| | ormation on basic physic | ai ana onemicai prop |
|----|--|-------------------------------|
| a) | Appearance | Form: powder Colour: white |
| b) | Odour | No data available |
| c) | Odour Threshold | No data available |
| d) | рН | No data available |
| e) | Melting point/freezing point | No data available |
| f) | Initial boiling point and boiling range | No data available |
| g) | Flash point | No data available |
| h) | Evaporation rate | No data available |
| i) | Flammability (solid, gas) | No data available |
| j) | Upper/lower flammability or explosive limits | No data available |
| k) | Vapour pressure | No data available |
| l) | Vapour density | No data available |
| m) | Relative density | No data available |
| n) | Water solubility | No data available |
| o) | Partition coefficient: n-octanol/water | No data available |
| p) | Auto-ignition temperature | No data available |
| q) | Decomposition temperature | No data available |
| r) | Viscosity | No data available |
| s) | Explosive properties | No data available |
| t) | Oxidizing properties | No data available |

9.2 Other safety information

No data available

10. STABILITY AND REACTIVITY

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Strong oxidizing agents

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx), Oxides of phosphorus, Sodium oxides

Other decomposition products - No data available

In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

No data available

Inhalation: No data available

Dermal: No data available

No data available

No data available

Skin corrosion/irritation

No data available

No data available

Serious eye damage/eye irritation

No data available

No data available

Respiratory or skin sensitisation

No data available

No data available

Germ cell mutagenicity

No data available

No data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as

probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a

known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a

carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

No data available

No data available

No data available

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS: Not available

Stomach - Irregularities - Based on Human Evidence

Stomach - Irregularities - Based on Human Evidence (Ethanol)

Stomach - Irregularities - Based on Human Evidence (Methanol)

12. ECOLOGICAL INFORMATION

12.1 Toxicity

No data available

No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

No data available

No data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

15. REGULATORY INFORMATION

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

CAS-No.

CAS-No.

Revision Date

Revision Date

SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

| | CAS-No. | Revision Date |
|---------|---------|---------------|
| Ethanol | 64-17-5 | 2007-03-01 |

Pennsylvania Right To Know Components

| | 0, 10 . 10. | |
|---|-------------|------------|
| Uridine 5'-(disodium dihydrogen triphosphate) dihydrate | 116295-90-0 | |
| Ethanol | 64-17-5 | 2007-03-01 |
| Methanol | 67-56-1 | 2007-07-01 |

New Jersey Right To Know Components

| Uridine 5'-(disodium dihydrogen triphosphate) dihydrate Ethanol | 116295-90-0 64-17-5 | 2007-03-01 |
|---|------------------------|------------|
| California Prop. 65 Components | | |

| WARNING: This product contains a chemical known to the | CAS-No. | Revision Date |
|--|---------|---------------|
| State of California to cause birth defects or other reproductive | 67-56-1 | 2012-03-16 |
| harm | | |

Methanol

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

Eye Irrit. Eye irritation Flam. Liq. Flammable liquids

H225 Highly flammable liquid and vapour. H319 Causes serious eye irritation.

HMIS Rating

Health hazard: 2
Chronic Health Hazard: *
Flammability: 0
Physical Hazard 0

NFPA Rating

Health hazard: 2
Fire Hazard: 0
Reactivity Hazard: 0

Further information

The above information is believed to be accurate and represents the best information currently available to Gojira Fine Chemicals. However, we make no warranty or merchantability or any other warranty, express or Implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Gojira Fine Chemicals be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Gojira Fine Chemicals has been advised of the possibility of such damages.