

# Calcium Nitrate 32 Percent Solution (RXSOL-67-6720-030)

MATERIAL SAFETY DATA SHEET • SALALAH CHEMICAL, OMAN

## 1. Product and Company Identification

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|              |                   |
|--------------|-------------------|
| Product Name | CALCIUM NITRATE   |
| Part Number  | RXSOL-67-6604-025 |

Company Details:

RX MARINE INTERNATIONAL  
105, A wing , BSEL , TECH PARK.  
VASHI ,NEW BOMBAY 400703 INDIA

Branch : Kandla, Mumbai , Chennai, Vizag, Kolkata, UAE , OMAN , CANADA and KENYA

|         |                                                          |
|---------|----------------------------------------------------------|
| Phone   | +91 22 20871200 - 1400                                   |
| Fax     | +91 22 27612100 ::::AOH :0091 9821214367                 |
| Email   | <a href="mailto:mail@rxmarine.com">mail@rxmarine.com</a> |
| Website | <a href="http://www.rxmraine.com">www.rxmraine.com</a>   |

## 2. Composition / Information on ingredients

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| Chemical Name   | CAS        | EC number | Weight  | Formula                                            |
|-----------------|------------|-----------|---------|----------------------------------------------------|
| Calcium nitrate | 13477-34-4 | 233-332-1 | = 100 % | $\text{CaN}_2\text{O}_6 \cdot 4\text{H}_2\text{O}$ |

## 3. Hazards Identification

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|                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Signal Word                                | Danger                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Hazard Statements                          | H302 Harmful if swallowed. H318 Causes serious eye damage.                                                                                                                                                                                                                                                                                                                                                                                            |
| Precautionary statements                   | P264 Wash skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P280 Wear eye protection/ face protection. P301 + P312 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P501 Dispose of contents/ container to an approved waste disposal plant. |
| Classification of the substance or mixture | Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.                                                                                                                                                                                                                                                                                                                                                                       |
| Supplemental Hazard Statements             | None.                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Other hazards                              | This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.                                                                                                                                                                                                                                                    |

## 4. First Aid Measures

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|----------------|-------------------------------------------------------------------|
| General advice | Show this material safety data sheet to the doctor in attendance. |
|----------------|-------------------------------------------------------------------|

|                                                                            |                                                                                                                                                            |
|----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| If inhaled                                                                 | After inhalation: fresh air.                                                                                                                               |
| Eye Contact                                                                | After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.                                             |
| Swallowed                                                                  | After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.                                                          |
| Skin Contact                                                               | In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.                                                    |
| Inhalation                                                                 | Remove patient to fresh air, keep warm and at rest and get medical assistance in necessary.                                                                |
| Ingestion                                                                  | Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately. |
| Most important symptoms and effects, both acute and delaye                 | The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11                                        |
| Indication of any immediate medical attention and special treatment needed | No data available                                                                                                                                          |

## 5. Fire-fighting Measures

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|                                                       |                                                                                                                                                                |
|-------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Flammability                                          | May be combustible at high temperature.                                                                                                                        |
| Suitable extinguishing media                          | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.                                                        |
| Unsuitable extinguishing media                        | For this substance/mixture no limitations of extinguishing agents are given.                                                                                   |
| Special hazards arising from the substance or mixture | Nitrogen oxides (NOx) Calcium oxide Not combustible. Ambient fire may liberate hazardous vapours.                                                              |
| Further information                                   | Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system. |
| Hazardous combustion products                         | Fire may cause the evolution of Sulphur oxides, nitrogen oxides.                                                                                               |
| Advice for firefighters                               | In the event of fire, wear self-contained breathing apparatus.                                                                                                 |
| Protective Equipment                                  | Use personal protective equipment.                                                                                                                             |
| Specific Hazards Arising from the Chemical            | Has a fire-promoting effect due to the release of oxygen.<br>Ambient fire may liberate hazardous vapours.                                                      |

## 6. Accidental Release Measures

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|                                                                     |                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Personal precautions, protective equipment and emergency procedures | Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.                                                                                                  |
| Spillage                                                            | Oxidizing material. Stop leak if without risk. Avoid contact with a combustible material (wood, paper, oil, clothing...). Keep substance damp using water spray. Do not touch spilled material. Prevent entry into sewers, basements or confined areas dike if needed. Eliminate all ignition sources. Call for assistance on disposal. |

|                                                    |                                                                                                                                                                                                                |
|----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Personal Protection                                | Advice for non-emergency personnel: Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, consult an expert. Advice for emergency responders: Protective equipment see section 8. |
| Environmental Precaution                           | Do not let product enter drains.                                                                                                                                                                               |
| Methods and materials for containment and cleaning | Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.         |

## 7. Handling and Storage

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|                                                              |                                                                                                                                               |
|--------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Advice on safe handling                                      | Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.                                                       |
| Advice on protection against fire and explosion              | Provide appropriate exhaust ventilation at places where dust is formed.                                                                       |
| Incompatible materials                                       | Keep away from alkalis, strong oxidizing agents and metals. Provide containment walls of adequate capacity to hold any accidental spills.     |
| Hygiene measures                                             | General industrial hygiene practice. For precautions see section 2.2.                                                                         |
| Precautions for safe handling                                | For precautions see section 2.2.                                                                                                              |
| Conditions for safe storage, including any incompatibilities | Store the container tightly closed in a dry, cool and well-ventilated place. Store apart from foodstuff containers or incompatible materials. |
| Storage conditions                                           | Tightly closed. Dry. Hygroscopic.                                                                                                             |
| Storage class                                                | Storage class (TRGS 510): 13: Non Combustible Solids                                                                                          |
| Specific end use(s)                                          | Apart from the uses mentioned in section 1.2 no other specific uses are stipulated                                                            |
| Advice on general occupational hygiene                       | Advice on safe handling Observe label precautions. Change contaminated clothing. Wash hands after working with substance.                     |
| Requirements for storage                                     | Keep in cool and store under shade.                                                                                                           |

## 8. Exposure controls and personal protection

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|                     |                                                                                                                                                                                                                                                                                 |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Exposure controls   | No specific additional engineering controls are required. Provide good natural or artificial ventilation.                                                                                                                                                                       |
| Engineering Control | Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit. |
| Eye/face protection | Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles                                                                                                                    |
| Body Protection     | Protective clothing                                                                                                                                                                                                                                                             |

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Skin protection                   | This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: <a href="http://www.kcl.de">www.kcl.de</a> ). Full contact Material: Nitrile rubber Minimum layer thickness: 0,11 mm Break through time: 480 min Material tested:KCL 741 Dermatril® L This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: <a href="http://www.kcl.de">www.kcl.de</a> ). Splash contact Material: Nitrile rubber Minimum layer thickness: 0,11 mm Break through time: 480 min Material tested:KCL 741 Dermatril® L |
| Respiratory protection            | Required when dusts are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system. Recommended Filter type: Filter type P2 The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Other Protection Measure          | Handle in accordance with good industrial hygiene and safety practice.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Control of environmental exposure | Do not let product enter drains.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Thermal hazards                   | No data available                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

## 9. Physical and chemical properties

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|                                        |                   |
|----------------------------------------|-------------------|
| Physical state                         | Crystalline       |
| Colour                                 | Colorless         |
| Odour                                  | No data available |
| Odor Threshold                         | Not Applicable    |
| pH                                     | 5,5 - 7,0         |
| Melting Point                          | 44 °C - dec.      |
| Boiling Point                          | No data available |
| Flash Point                            | No data available |
| Evaporation Rate                       | Not Applicable    |
| Flammability (solid, gas)              | No data available |
| Explosive limits                       | No Data Available |
| Upper flammability or explosive limits | No data available |
| Autoignition temperature               | No data available |
| Decomposition temperature              | No data available |
| Relative Vapour pressure               | No data available |
| Density                                | 1,82 g/cm3        |
| Vapour Density                         | No data available |
| Freezing point                         | No data available |

|                          |                           |
|--------------------------|---------------------------|
| Specific Gravity         | No data available         |
| Partition coefficient    | No data available         |
| Explosive properties     | No data available         |
| Solubility               | 1.293 g/l at 20 °C        |
| Ignition temperature     | No information available. |
| Particle characteristics | No data available         |

## 10. Stability and reactivity

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|                                    |                                                                                                                                                            |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reactivity                         | No data available                                                                                                                                          |
| Stability                          | The product is chemically stable under standard ambient conditions (room temperature) .                                                                    |
| Possibility of hazardous reactions | Risk of explosion with: organic combustible substances Powdered metals ammonium nitrate with Combustible Liquids Exothermic reaction with: Reducing agents |
| Conditions to avoid                | Avoid contact with combustible material (paper, wool, oil). no information available                                                                       |
| Incompatible materials             | No data available                                                                                                                                          |
| Hazardous Polymerization           | In the event of fire: see section 5                                                                                                                        |

## 11. Toxicological information

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|                                                  |                                                                                                                                                                                                                           |
|--------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Acute toxicity                                   | LD50 Oral - Rat - > 300 - 2.000 mg/kg (OECD Test Guideline 423) Inhalation: No data available Dermal: No data available                                                                                                   |
| Skin corrosion/irritation                        | Skin - Rabbit Result: No skin irritation (OECD Test Guideline 404)                                                                                                                                                        |
| Serious eye damage/eye irritation                | Eyes - Rabbit Result: Risk of serious damage to eyes. (OECD Test Guideline 405)                                                                                                                                           |
| Respiratory or skin sensitization                | No data available                                                                                                                                                                                                         |
| Toxic Effects on Human                           | May cause damage to the following organs: upper respiratory tract. Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant, sensitizer), of ingestion, of inhalation (lung irritant, lung sensitizer). |
| Carcinogenicity                                  | No data available                                                                                                                                                                                                         |
| Germ cell mutagenicity                           | No data available                                                                                                                                                                                                         |
| Reproductive toxicity                            | May damage the unborn child. May damage fertility.                                                                                                                                                                        |
| Specific target organ toxicity - single exposure | Mixture may cause drowsiness or dizziness.                                                                                                                                                                                |

|                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Special Remarks on other Toxi Effects on Humans | Acute Potential Health Effects: Skin: Causes skin irritation. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. Eyes: Causes eye irritation. Ingestion: Causes gastrointestinal (digestive) tract irritation with nausea, vomiting, and diarrhea. May be harmful if swallowed. Inhalation: Causes respiratory tract irritation. May cause chemical pneumonitis and pulmonary edema, inflammation, edema of bronchi and larynx. Chronic Potential Health Effects: Repeated or prolonged skin exposure may cause allergic reactions in sensitive individuals. Repeated or prolonged exposure by inhalation may affect respiration and metabolism. |
| Endocrine disrupting properties                 | The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. RTECS: EW3000000 To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.                                                                                                                                                                                                                                                                                                     |

## 12. Ecological information

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|                                                     |                                                                                                                                                                                                                                                             |
|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Persistence and degradability                       | The methods for determining the biological degradability are not applicable to inorganic substances.                                                                                                                                                        |
| Toxicity to fish                                    | LC50 - Oncorhynchus mykiss (rainbow trout) - > 98,9 mg/l - 96 h                                                                                                                                                                                             |
| Toxicity to daphnia and other aquatic invertebrates | EC50 - Daphnia magna (Water flea) - 13.299 mg/l - 48 h Remarks: (IUCLID)                                                                                                                                                                                    |
| Toxicity to algae                                   | IC50 - Desmodesmus subspicatus (green algae) - > 1.000 mg/l - 72 h Remarks: (IUCLID)                                                                                                                                                                        |
| Toxicity to bacteria                                | EC5 - Pseudomonas putida - 1.050 mg/l - 16 h Remarks: (Lit.)                                                                                                                                                                                                |
| Mobility in soil                                    | No Information available                                                                                                                                                                                                                                    |
| Results of PBT and vPvB assessment                  | This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.                                                          |
| Endocrine disrupting properties                     | The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. |
| Other adverse effects                               | No data available                                                                                                                                                                                                                                           |

## 13. Disposal considerations

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|                        |                                                                                                                                                                                                                                                          |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Disposal methods       | The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems. |
| Waste treatment Method | No data available                                                                                                                                                                                                                                        |

## 14. Transport information

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|                            |             |          |          |
|----------------------------|-------------|----------|----------|
| UN number                  | ADR/RID:    | IMDG:    | IATA:    |
| UN proper shipping name    | ADR/RID:    | IMDG:    | IATA:    |
| Transport hazard class(es) | ADR/RID:    | IMDG:    | IATA:    |
| Packaging group            | ADR/RID:    | IMDG:    | IATA:    |
| Environmental hazards      | ADR/RID: No | IMDG: No | IATA: No |

|                                                |                                                                      |
|------------------------------------------------|----------------------------------------------------------------------|
| Special precautions for user                   | Tunnel restriction code : (C/E)                                      |
| Further information                            | Not classified as dangerous in the meaning of transport regulations. |
| Transport in bulk according to IMO instruments | No data available                                                    |

## 15. Regulatory information

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|                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Inventory status                                                                               | Components are on the following inventories: Polymaleic acid: - US TSCA, Canadian DSL, EU EINECS, Australian AICS, Korean, Philippine PICCS and Chinese Xi irritant R 36/38 Irritant to eyes & skin R 41 Risk of serious damage to eyes S24/25 Avoid contact with skin and eyes S26/28 In case of contact eyes & skin, rinse with plenty water and seek medical advice Section 312/313: Not listed. Not listed under California proposition 65. |
| Safety, health and environmental regulations/legislation specific for the substance or mixture | This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.                                                                                                                                                                                                                                                                                                                                                |
| Authorisations and/or restrictions on use                                                      | Regulation (EU) 2019/1148 on the marketing and use of explosives precursors : Calcium nitrate tetrahydrate                                                                                                                                                                                                                                                                                                                                      |
| Other regulations                                                                              | Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable. Take note of Dir 94/33/EC on the protection of young people at work.                                                                                                                                                                                                                                 |
| Chemical Safety Assessment                                                                     | For this product a chemical safety assessment was not carried out                                                                                                                                                                                                                                                                                                                                                                               |

## 16. Other information

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|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Other Information | <p>The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of 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 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 Rx Marine International has been advised of the possibility of such damages.</p> <p>DISCLAIMER OF LIABILITY :The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.</p> |
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