

SAFETY DATA SHEET

SDS

Phthalic anhydride

I According to GHS (Sixth Revised Edition)

Section 1 Product and Company Identification

> Product Identifier

| | |
|-------------------|--|
| Product Name | Phthalic anhydride |
| Synonyms | - |
| CAS No. | 85-44-9 |
| EC No. | 201-607-5 |
| Molecular Formula | C ₈ H ₄ O ₃ |

> Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

| | |
|--------------------------|------------------------------|
| Relevant Identified Uses | Please consult manufacturer. |
| Uses Advised Against | Please consult manufacturer. |

> Details of the Supplier of the Safety Data Sheet

| | |
|------------------------|--|
| Applicant Name | STAR GRACE CHEMICAL(Dalian)Co., LTD |
| Application Address | No.1A-4-506, Software Park Road, High-Tech Park, Dalian City, Liaoning Province, China |
| Applicant Post Code | 116011 |
| Applicant Telephone | +86-411-39034986 |
| Applicant Fax | +86-411-39034986 |
| Applicant E-mail | sg_joanna@126.com |
| Manufacturer Name | STAR GRACE CHEMICAL(Dalian)Co., LTD |
| Manufacturer Address | No.1A-4-506, Software Park Road, High-Tech Park, Dalian City, Liaoning Province, China |
| Manufacturer Post Code | 116011 |
| Manufacturer Telephone | +86-411-39034986 |
| Manufacturer Fax | +86-411-39034986 |
| Manufacturer E-mail | sg_joanna@126.com |

> Emergency Phone Number

| | |
|------------------------|-----------------|
| Emergency Phone Number | +86-13842601049 |
|------------------------|-----------------|

Section 2 Hazards Identification

Hazard class and label elements of the product according to GHS (the sixth revised edition):

> GHS Hazard Class

| | |
|-----------------------|------------|
| Acute Toxicity – Oral | Category 4 |
|-----------------------|------------|



| | |
|--|------------|
| Skin | Category 2 |
| Corrosion/Irritation | Category 2 |
| Sensitization – Skin | Category 1 |
| Eye Damage/Irritation | Category 1 |
| Sensitization – Respiratory | Category 1 |
| Specific Target Organ Toxicity (Single Exposure) | Category 3 |

> GHS Label Elements

Pictogram

Signal Word

> Hazard Statements

| | |
|------|---|
| H302 | Harmful if swallowed |
| H315 | Causes skin irritation |
| H317 | May cause an allergic skin reaction |
| H318 | Causes serious eye damage |
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled |
| H335 | May cause respiratory irritation |

> Precautionary Statements

Prevention

| | |
|------|--|
| P261 | Avoid breathing dust/fume/gas/mist/vapours/spray. |
| P264 | Wash thoroughly after handling. |
| P270 | Do not eat, drink or smoke when using this product. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P272 | Contaminated work clothing should not be allowed out of the workplace. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P284 | [In case of inadequate ventilation] wear respiratory protection. |

Response

| | |
|-----------|--|
| P312 | Call a POISON CENTER/doctor,if you feel unwell. |
| P330 | Rinse mouth. |
| P301+P312 | IF SWALLOWED: Call a POISON CENTER/ doctor,if you feel unwell. |
| P302+P352 | IF ON SKIN: Wash with plenty of water. |
| P304+P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |
| P333+P313 | If skin irritation or rash occurs: Get medical advice/attention. |
| P342+P311 | If experiencing respiratory symptoms: Call a POISONCENTER/doctor. |
| P362+P364 | Take off contaminated clothing and wash it before reuse. |

Storage

| | |
|----------------|--|
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P405 | Store locked up. |
| P403+P233 | Store in a well-ventilated place. Keep container tightly closed. |

Disposal



P501

Dispose of contents/container in accordance with local/regional/national/international regulations.

Section 3 Composition/Information on Ingredients

| Component | Concentration (weight percent, %) | CAS No. | EC No. |
|--------------------|-----------------------------------|----------|-----------|
| Phthalic anhydride | > 99.94 | 85-44-9 | 201-607-5 |
| Maleicanhydride | < 0.01 | 108-31-6 | 203-571-6 |
| ASH | < 0.05 | | |

Section 4 First Aid Measures**> Description of First Aid Measures**

| | |
|-----------------------------------|---|
| General Advice | Immediate medical attention is required. Show this safety data sheet (SDS) to the doctor in attendance. |
| Eye Contact | Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician if feel uncomfortable. |
| Skin Contact | Take off contaminated clothing and shoes immediately. Wash off with plenty of water for at least 15 minutes and consult a physician if feel uncomfortable. |
| Ingestion | Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately. |
| Inhalation | Move victim into fresh air. If breathing is difficult, give oxygen. Do not use mouth to mouth resuscitation if victim ingested or inhaled the substance. If not breathing, give artificial respiration and consult a physician immediately. |
| Protecting of First-aiders | Ensure that medical personnel are aware of the substance involved. Take precautions to protect themselves and prevent spread of contamination. |

> Most Important Symptoms and Effects, both Acute and Delayed

- 1 Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

> Indication of Any Immediate Medical Attention and Special Treatment Needed

- 1 Treat symptomatically.
- 2 Symptoms may be delayed.

Section 5 Fire Fighting Measures**> Extinguishing Media**

| | |
|---------------------------------------|--|
| Suitable Extinguishing Media | Dry chemical, carbon dioxide, water spray, alcohol-resistant foam. |
| Unsuitable Extinguishing Media | Do not use a solid water stream as it may scatter or spread fire. |

> Specific Hazards Arising from the Substance or Mixture

- 1 Containers may explode when heated.
- 2 Fire exposed containers may vent contents through pressure relief valves.
- 3 May expansion or decompose explosively when heated or involved in fire.

> Advice for Firefighters

- 1 As in any fire, wear self-contained breathing apparatus (MSHA/NIOSH approved or equivalent) and full protective gear.
- 2 Fight fire from a safe distance, with adequate cover.
- 3 Prevent fire extinguishing water from contaminating surface water or the ground water system.

**> Personal Precautions, Protective Equipment and Emergency Procedures****Section 6 Accidental Release Measure**

- 1 Ensure adequate ventilation. Remove all sources of ignition.
- 2 Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
- 3 Use personal protective equipment. Avoid breathing vapours, mist, gas or dust.

> Environmental Precautions

- 1 Prevent further leakage or spillage if safe to do so.
- 2 Discharge into the environment must be avoided.

> Methods and Materials for Containment and Cleaning Up

- 1 Absorb spilled material in dry sand or inert absorbent. In case of large amount of spillage, contain a spill by bunding.
- 2 Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.
- 3 Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

Section 7 Handling and Storage**> Precautions for Handling**

- 1 Handling is performed in a well ventilated place.
- 2 Wear suitable protective equipment.
- 3 Avoid contact with skin and eyes.
- 4 Keep away from heat/sparks/open flames/ hot surfaces.
- 5 Take precautionary measures against static discharges.

> Precautions for Storage

- 1 Keep containers tightly closed.
- 2 Keep containers in a dry, cool and well-ventilated place.
- 3 Keep away from heat/sparks/open flames/ hot surfaces.
- 4 Store away from incompatible materials and foodstuff containers.

Section 8 Exposure Controls/Personal Protection**> Control Parameters****Occupational Exposure Limit Values**

| Component | Country/Region | Limit Value - Eight Hours | | Limit Value - Short Term | |
|-------------------------------|----------------|---------------------------|-------------------|--------------------------|-------------------|
| | | ppm | mg/m ³ | ppm | mg/m ³ |
| Phthalic anhydride 85-44-9 | USA - OSHA | 2 | 12 | - | - |
| | South Korea | 1 | 6 | - | - |
| | Ireland | - | 4 | - | 12 |
| | France | - | - | - | 6 |
| | Denmark | - | 1 | - | 2 |
| | Australia | 1 | 6.1 | - | - |

Biological Limit Values

No information available

Monitoring Methods

- 1 EN 14042 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.
- 2 GBZ/T 160.1~GBZ/T 160.81-2004 Determination of toxic substances in workplace air (Series standard) .

> Engineering Controls

- 1 Ensure adequate ventilation, especially in confined areas.
- 2 Ensure that eyewash stations and safety showers are close to the workstation location.
- 3 Use explosion-proof electrical/ventilating/lighting/equipment.
- 4 Set up emergency exit and necessary risk-elimination area.

> Personal Protection Equipment

| | |
|--------------------------|--|
| Eye Protection | Tightly fitting safety goggles (approved by EN 166(EU) or NIOSH (US). |
| Hand Protection | Wear protective gloves (such as butyl rubber) , passing the tests according to EN 374(EU),US F739 or AS/NZS 2161.1 standard. |
| Respiratory protection | If exposure limits are exceeded or if irritation or other symptoms are experienced, use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges. |
| Skin and Body Protection | Wear fire/flare resistant/retardant clothing and antistatic boots. |

Section 9 Physical and Chemical Properties

| | |
|---|---|
| Appearance: White flaky solid | Odor: No information available |
| Odor Threshold: No information available | pH: No information available |
| Melting Point/Freezing Point (°C): No information available | Initial Boiling Point and Boiling Range (°C): > 35 |
| Flash Point (°C)(Closed Cup): Not applicable | Evaporation Rate: Not applicable |
| Flammability: No information available | Upper/lower explosive limits[%(v/v)]: Upper limit : No information available ; Lower limit : No information available |
| Vapor Pressure (MPa): Not applicable | Relative Vapour Density(Air = 1): Not applicable |
| Relative Density(Water=1): No information available | Solubility: No information available |
| n-Octanol/Water Partition Coefficient: No information available | Auto-Ignition Temperature(°C): No information available |
| Decomposition Temperature (°C): No information available | Kinematic Viscosity (mm ² /s): Not applicable |
| Particle characteristics: No information available | |

Section 10 Stability and Reactivity

| | |
|------------------------------------|---|
| Reactivity | Contact with incompatible substances can cause decomposition or other chemical reactions. |
| Chemical Stability | Stable under proper operation and storage conditions. |
| Possibility of Hazardous Reactions | Reacts with alkaline metals, alkaline earth metals, ammonia, ammonium ion, methylamine, dimethylamine, trimethylamine, lower aliphatic amines, pyridine or quinoline, decomposes and releases heat. |

| | |
|---|--|
| Conditions to Avoid | Incompatible materials, heat, flame and spark. |
| Incompatible Materials | Alkaline metals, alkaline earth metals, ammonia, ammonium ion, methylamine, dimethylamine, trimethylamine, lower aliphatic amines, pyridine or quinoline, alcohols and oxidants. |
| Hazardous Decomposition products | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

Section 11 Toxicological Information

> Acute Toxicity

| Component | CAS No. | LD ₅₀ (Oral) | LD ₅₀ (Dermal) | LC ₅₀ (Inhalation, 4h) |
|--------------------|---------|-------------------------|---------------------------|-----------------------------------|
| Phthalic anhydride | 85-44-9 | 1530mg/kg(Rat) | > 10000mg/kg(Rabbit) | No information available |

> Skin Corrosion/Irritation

Causes skin irritation(Category 2)

> Serious Eye Damage/Irritation

Causes serious eye damage(Category 1)

> Skin Sensitization

May cause an allergic skin reaction(Category 1)

> Respiratory Sensitization

May cause allergy or asthma symptoms or breathing difficulties if inhaled(Category 1)

> Germ Cell Mutagenicity

No information available

> Carcinogenicity

| ID | CAS No. | Component | IARC | NTP |
|----|---------|--------------------|------------|------------|
| 1 | 85-44-9 | Phthalic anhydride | Not Listed | Not Listed |

> Reproductive Toxicity

No information available

> Reproductive Toxicity (Additional)

No information available

> STOT-Single Exposure

May cause respiratory irritation(Category 3)

> STOT-Repeated Exposure

No information available

> Aspiration Hazard

No information available

Section 12 Ecological Information

> Acute Aquatic Toxicity

| Component | CAS No. | Fish | Crustaceans | Algae |
|--------------------|---------|---|---------------------------------|------------------------------------|
| Phthalic anhydride | 85-44-9 | LC ₅₀ : >99mg/L (96h)(Fish) | EC ₅₀ : 71mg/L (48h) | ErC ₅₀ : 41.4mg/L (96h) |

> Chronic Aquatic Toxicity

| Component | CAS No. | Fish | Crustaceans | Algae |
|--------------------|---------|--------------------------|---------------|---------------|
| Phthalic anhydride | 85-44-9 | No information available | NOEC : 16mg/L | NOEC : 32mg/L |

> Others

 Persistence and Degradability
 Bioaccumulative Potential

No information available

No information available

Mobility in Soil

No information available

Results of PBT and vPvB Assessment

Phthalic anhydride does not meet the criteria for PBT and vPvB according to Regulation (EC) No 1907/2006, annex XIII.

Section 13 Disposal Considerations

Waste Chemicals

Before disposal should refer to the relevant national and local laws and regulation. Recommend the use of incineration disposal.

Contaminated Packaging

Containers may still present chemical hazard when empty. Keep away from hot and ignition source of fire. Return to supplier for recycling if possible.

Disposal

Refer to section 13.1 and 13.2.

Recommendations

Section 14 Transport Information

Transporting Label

Not applicable

UN Number

UN Proper Shipping Name

NOT REGULATED BY IMO/IMDG

Transport Hazard Class

None

Transport Subsidiary

None

Hazard Class

Packing Group

-

> International Chemical Inventory

Section 15 Regulatory Information

| Component | EINECS | TSCA | DSL | IECSC | NZIoC | PICCS | KECI | AICS | ENCS |
|--------------------|--------|------|-----|-------|-------|-------|------|------|------|
| Phthalic anhydride | √ | √ | √ | √ | √ | √ | √ | √ | √ |

【EINECS】 European Inventory of Existing Commercial Chemical Substances.

【TSCA】 United States Toxic Substances Control Act Inventory.

【DSL】 Canadian Domestic Substances List.

【IECSC】 China Inventory of Existing Chemical Substances.

【NZIoC】 New Zealand Inventory of Chemicals.

【PICCS】 Philippines Inventory of Chemicals and Chemical Substances.

【KECI】 Existing and Evaluated Chemical Substances.

【AICS】 Australia Inventory of Chemical Substances.

【ENCS】 Existing And New Chemical Substances.

Note

"√" Indicates that the substance included in the regulations

"x" That no data or included in the regulations

Section 16 Additional Information

Creation Date 2020/5/11

Revision Date 2020/5/11

Reason for Revision

> Disclaimer

This Safety Data Sheet (SDS) was prepared according to UN GHS (the 6th revised edition). The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and the limitations of our knowledge, this document is only for user' s reference. Users should make their independent judgment of suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.

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