intertek
Total Quality. Assured.

Safety Data Sheet (SDS) Report

SDS number: P2020102701

Applicant: Liaoning Honggang Chemicals Co., Ltd
NO.6, WANHE 2 ROAD, AROMATICS BASE,
LIAOYANG, LIAONING, CHINA

Issue Date: 2020-11-02

Sample Description:

The sample information was submitted and identified on client's behalf to be:

Product Name	:	1,8-Naphthalic Anhydride
Physical State	:	Solid
Data Received	:	Oct 27, 2020
Data Reviewed	:	Nov 02, 2020

Service Requested:

Based on the information provided by the applicant, the Safety Data Sheet (SDS) was generated in accordance with requirements of GB/T16483-2008 and GB/T17519-2013, for details please refer to attached pages.

Authorized By:

On Behalf Of Regulatory Affairs in Intertek Testing Services Ltd., Shanghai

Anna Wang
Regulatory Consultant

Intertek Health, Environmental &Regulatory Services (HERS)

5th Floor,Building No.86,1198 QinZhou Road(North),Cao Hejing Development Zone,ShangHai,China.

Tel: +86 021 53397917 ZIP: 200233

E-mail:hers@intertek.com

SAFETY DATA SHEET

1,8-Naphthalic Anhydride
Liaoning Honggang Chemicals Co., Ltd

SDS Number:**P2020102701**

Version No: **1.0**
Authored according to GB/T16483(2008) and GB/T17519(2013)

Issue Date:**02/11/2020**
GHS.CHN.EN

SECTION 1 Identification of the substance / mixture and of the company / undertaking

Product Identifier

Product name	1,8-Naphthalic Anhydride
Chemical Name	1,8-naphthalic anhydride
Proper shipping name	FLAMMABLE SOLID, ORGANIC, N.O.S. (contains 1,8-Naphthalic anhydride)
Chemical formula	C12H6O3
Other means of identification	Not Available
CAS number	81-84-5

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

Relevant identified uses	Intermediate for pigments, dyestuffs, agricultural, pesticides, resin and film.

Details of the supplier of the safety data sheet

Supplier Name	**Liaoning Honggang Chemicals Co., Ltd**
Address	NO.6, WANHE 2 ROAD, AROMATICS BASE, LIAOYANG, LIAONING, CHINA.
Telephone	0086-419-7675988
Fax	0086-419-7675289
Email	Sales@liangangchem.com

Emergency telephone number

Association / Organisation	
Emergency telephone numbers	

SECTION 2 Hazards identification

Classification of the substance or mixture

Summary of Hazard in an Emergency Situation

Solid.Highly flammable.
Inhalation may cause sensitization.
Contact with skin may cause sensitization.

Classification	Flammable Solid Category 2, Respiratory Sensitizer Category 1, Skin Sensitizer Category 1

Label elements

Hazard pictogram(s)	
Signal word	**Danger**

Hazard statement(s)

H228	Flammable solid.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.

Supplementary statement(s)

Not Applicable

Precautionary statement(s) Prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261	Avoid breathing dust/fumes.

Page 1 continued...

P284	[In case of inadequate ventilation] wear respiratory protection.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/intrinsically safe equipment.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statement(s) Response

P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P321	Specific treatment (see advice on this label).
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor/physician/first aider.
P370+P378	In case of fire: Use water jets to extinguish.
P302+P352	IF ON SKIN: Wash with plenty of water.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

P501	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

Physical and Chemical Hazard

Solid.Highly flammable.
HIGHLY FLAMMABLE.
Toxic smoke/fumes in a fire.

Health Hazards

Inhaled	The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.
Ingestion	The material has **NOT** been classified by EC Directives or other classification systems as 'harmful by ingestion'. This is because of the lack of corroborating animal or human evidence.
Skin Contact	The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
Eye	Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may cause transient discomfort characterised by tearing or conjunctival redness (as with windburn). Slight abrasive damage may also result.
Chronic	Inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population. Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population.

Environmental Hazards

See Section 12

Other hazards

No further information

SECTION 3 Composition / information on ingredients

Substances

CAS No	%[weight]	Name
81-84-5	99.2	1,8-Naphthalic anhydride
7732-18-5	0.5	water
82-86-0	0.1	acenaphthenequinone
208-96-8	0.1	acenaphthylene
108-31-6	0.1	maleic anhydride

Mixtures

See section above for composition of Substances

SECTION 4 First aid measures

Description of first aid measures

Continued...

Eye Contact	If this product comes in contact with eyes: ▸ Wash out immediately with water. ▸ If irritation continues, seek medical attention. ▸ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin contact occurs: ▸ Immediately remove all contaminated clothing, including footwear. ▸ Flush skin and hair with running water (and soap if available). ▸ Seek medical attention in event of irritation.
Inhalation	▸ If fumes, aerosols or combustion products are inhaled remove from contaminated area. ▸ Other measures are usually unnecessary.
Ingestion	▸ Immediately give a glass of water. ▸ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Advise for rescue team (PPE requirement for rescue personnel)

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 Firefighting measures

Extinguishing media

For **SMALL FIRES**:
Dry chemical, CO2, water spray or foam.
For **LARGE FIRES**:
Water-spray, fog or foam.

Special hazards arising from the substrate or mixture

Fire Incompatibility	▸ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

Advice for firefighters

Fire Fighting	▸ Alert Fire Brigade and tell them location and nature of hazard. ▸ Wear breathing apparatus plus protective gloves.
Fire/Explosion Hazard	▸ Flammable solid which burns and propagates flame easily, even when partly wetted with water. ▸ Any source of ignition, i.e. friction, heat, sparks or flame, may cause fire or explosion. Combustion products include: carbon monoxide (CO) carbon dioxide (CO2) other pyrolysis products typical of burning organic material.

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Measures for Preventing Secondary Contamination

Refer to section above

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	▸ Remove all ignition sources. ▸ **DO NOT** touch or walk through spilled material.
Major Spills	▸ Clear area of personnel and move upwind. ▸ Alert Fire Brigade and tell them location and nature of hazard.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling	▸ Limit all unnecessary personal contact. ▸ Wear protective clothing when risk of overexposure occurs. ▸ Organic powders when finely divided over a range of concentrations regardless of particulate size or shape and suspended in air or some other oxidizing medium may form explosive dust-air mixtures and result in a fire or dust explosion (including secondary explosions) ▸ Minimise airborne dust and eliminate all ignition sources. Keep away from heat, hot surfaces, sparks, and flame.

Continued...

Other information	**FOR MINOR QUANTITIES:** ▸ Store in an indoor fireproof cabinet or in a room of noncombustible construction. ▸ Provide adequate portable fire-extinguishers in or near the storage area.

Conditions for safe storage, including any incompatibilities

Suitable container	▸ PP/PE container ▸ Check all containers are clearly labelled and free from leaks.
Storage incompatibility	▸ Avoid reaction with oxidising agents

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
China Occupational Exposure Limits for Hazardous Agents in the Workplace	maleic anhydride	Maleic anhydride	1 mg/m3	2 mg/m3	Not Available	敏

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.
Personal protection	
Eye and face protection	▸ Safety glasses with side shields. ▸ Chemical goggles.
Skin protection	See Hand protection below
Hands/feet protection	**NOTE:** ▸ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact. The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application. ▸ Wear physical protective gloves, e.g. leather. ▸ Wear safety footwear.
Body protection	See Other protection below
Other protection	▸ Overalls. ▸ Eyewash unit. ▸ Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity. ▸ For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets).

Respiratory protection

Particulate. (AS/NZS 1716 & 1715, EN 143:2000 & 149:001, ANSI Z88 or national equivalent)

- **Respirators may be necessary when engineering and administrative controls do not adequately prevent exposures.**
- **The decision to use respiratory protection should be based on professional judgment that takes into account toxicity information, exposure measurement data, and frequency and likelihood of the worker's exposure - ensure users are not subject to high thermal loads which may result in heat stress or distress due to personal protective equipment (powered, positive flow, full face apparatus may be an option).**
- **Published occupational exposure limits, where they exist, will assist in determining the adequacy of the selected respiratory protection. These may be government mandated or vendor recommended.**
- **Certified respirators will be useful for protecting workers from inhalation of particulates when properly selected and fit tested as part of a complete respiratory protection program.**
- **Use approved positive flow mask if significant quantities of dust becomes airborne.**
- **Try to avoid creating dust conditions.**

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Solid

Physical state	Solid	**Relative density (Water = 1)**	Not Available
Odour	Not Available	**Partition coefficient n-octanol / water**	Not Available

Continued...

Odour threshold	Not Available	**Auto-ignition temperature (°C)**	Not Available
pH (as supplied)	Not Available	**Decomposition temperature**	Not Available
Melting point / freezing point (°C)	Not Available	**Viscosity (cSt)**	Not Available
Initial boiling point and boiling range (°C)	Not Available	**Molecular weight (g/mol)**	Not Available
Flash point (°C)	Not Available	**Taste**	Not Available
Evaporation rate	Not Available	**Explosive properties**	Not Available
Flammability	Flammable	**Oxidising properties**	Not Available
Upper Explosive Limit (%)	Not Available	**Surface Tension (dyn/cm or mN/m)**	Not Applicable
Lower Explosive Limit (%)	Not Available	**Volatile Component (%vol)**	Not Available
Vapour pressure (kPa)	Not Available	**Gas group**	Not Available
Solubility in water	Not Available	**pH as a solution (1%)**	Not Available
Vapour density (Air = 1)	Not Available	**VOC g/L**	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	▸ Unstable in the presence of incompatible materials. ▸ Product is considered stable.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Acute Toxicity	1,8-Naphthalic Anhydride Oral (rat) LD50: 9600 mg/kg[1] acenaphthylene Oral (Rat) LD50:1760 mg/kg[2] maleic anhydride Dermal (rabbit) LD50: 2620 mg/kg[2] Oral (rat) LD50: =1090 mg/kg[2]
Skin Irritation/Corrosion	Based on available data, the classification criteria are not met.
Serious Eye Damage/Irritation	Based on available data, the classification criteria are not met.
Respiratory or Skin sensitisation	May cause an allergic skin reaction.May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Mutagenicity	Based on available data, the classification criteria are not met.
Carcinogenicity	Based on available data, the classification criteria are not met.
Reproductivity	Based on available data, the classification criteria are not met.
STOT - Single Exposure	Based on available data, the classification criteria are not met.
STOT - Repeated Exposure	Based on available data, the classification criteria are not met.
Aspiration Hazard	Based on available data, the classification criteria are not met.
Legend:	*1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances*

SECTION 12 Ecological information

Toxicity

1,8-Naphthalic Anhydride	Based on available data, the classification criteria are not met.

DO NOT discharge into sewer or waterways.

Continued...

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
1,8-Naphthalic anhydride	HIGH	HIGH
acenaphthenequinone	HIGH	HIGH
acenaphthylene	MEDIUM (Half-life = 120 days)	LOW (Half-life = 0.05 days)
maleic anhydride	HIGH	HIGH

Bioaccumulative potential

Ingredient	Bioaccumulation
1,8-Naphthalic anhydride	LOW (LogKOW = 3.2448)
acenaphthenequinone	LOW (LogKOW = 1.95)
acenaphthylene	MEDIUM (LogKOW = 3.94)
maleic anhydride	LOW (LogKOW = 1.6187)

Mobility in soil

Ingredient	Mobility
1,8-Naphthalic anhydride	LOW (KOC = 122.9)
acenaphthenequinone	LOW (KOC = 68.02)
acenaphthylene	LOW (KOC = 6123)
maleic anhydride	HIGH (KOC = 1)

Other adverse effects

No data available

SECTION 13 Disposal considerations

Waste treatment methods

Waste chemicals:	▸ Containers may still present a chemical hazard/ danger when empty. ▸ Return to supplier for reuse/ recycling if possible. ▸ **DO NOT** allow wash water from cleaning or process equipment to enter drains. ▸ It may be necessary to collect all wash water for treatment before disposal.
Contaminated packing materials:	Refer to section above
Precautions for Transport:	Refer to section above

SECTION 14 Transport information

Marine Pollutant	NO

Land transport (UN)

UN number	1325
UN proper shipping name	FLAMMABLE SOLID, ORGANIC, N.O.S. (contains 1,8-Naphthalic anhydride)
Transport hazard class(es)	Class: 4.1 Subrisk: Not Applicable
Packing group	III
Environmental hazard	Not Applicable
Special precautions for user	Special provisions: 223; 274 Limited quantity: 5 kg

Air transport (ICAO-IATA / DGR)

UN number	1325
UN proper shipping name	Flammable solid, organic, n.o.s. * (contains 1,8-Naphthalic anhydride)
Transport hazard class(es)	ICAO/IATA Class: 4.1 ICAO / IATA Subrisk: Not Applicable ERG Code: 3L
Packing group	III
Environmental hazard	Not Applicable

Continued...

Special precautions for user	Special provisions	A3 A803
	Cargo Only Packing Instructions	449
	Cargo Only Maximum Qty / Pack	100 kg
	Passenger and Cargo Packing Instructions	446
	Passenger and Cargo Maximum Qty / Pack	25 kg
	Passenger and Cargo Limited Quantity Packing Instructions	Y443
	Passenger and Cargo Limited Maximum Qty / Pack	10 kg

Sea transport (IMDG-Code / GGVSee)

UN number	1325	
UN proper shipping name	FLAMMABLE SOLID, ORGANIC, N.O.S. (contains 1,8-Naphthalic anhydride)	
Transport hazard class(es)	IMDG Class	4.1
	IMDG Subrisk	Not Applicable
Packing group	III	
Environmental hazard	Not Applicable	
Special precautions for user	EMS Number	F-A , S-G
	Special provisions	223 274
	Limited Quantities	5 kg

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

Precautions for Transport

Transportation precautions:
- Documentation covering all dangerous goods carried on the vehicle
- The transport unit must be placarded and marked in accordance with relevant transporting requirements.
- Personal protective equipment must be in sufficient quantities and suitable for use by the driver of the vehicle and where required for escape purposes, any other persons travelling in the vehicle.

Suitable Containers

See section 7

SECTION 15 Regulatory information

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

1,8-Naphthalic anhydride is found on the following regulatory lists

China Inventory of Existing Chemical Substances | China Inventory of Hazardous Chemicals (Chinese)

water is found on the following regulatory lists

China Inventory of Existing Chemical Substances

acenaphthenequinone is found on the following regulatory lists

China Inventory of Existing Chemical Substances

acenaphthylene is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List

maleic anhydride is found on the following regulatory lists

China Inventory of Existing Chemical Substances | China Occupational Exposure Limits for Hazardous Agents in the Workplace

China Inventory of Hazardous Chemicals (Chinese)

SECTION 16 Other information

Other information

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
PC—STEL: Permissible Concentration-Short Term Exposure Limit
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists
STEL: Short Term Exposure Limit
TEEL: Temporary Emergency Exposure Limit。
IDLH: Immediately Dangerous to Life or Health Concentrations
OSF: Odour Safety Factor
NOAEL :No Observed Adverse Effect Level

Continued...

LOAEL: Lowest Observed Adverse Effect Level
TLV: Threshold Limit Value
LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index

Disclaimer

The information in the SDS applies only for the specified product and does not include mixtures of this product with other substances and mixtures. The SDS provides product safety information for personnel trainned to use this product only.