SAFETY DATA SHEET

According to JIS Z 7253:2012
Revision Date 19-Jul-2019
Version 2.02

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product name	Benzoic Acid
Product code	020-00982,024-00985
CAS RN	65-85-0

Formula C7H6O2

Manufacturer
FUJIFILM Wako Pure Chemical Corporation
1-2 Doshomachi 3-Chome
Chuo-ku, Osaka 540-8605, Japan
Phone: +81-6-6203-3741
Fax: +81-6-6203-5964

Supplier
FUJIFILM Wako Pure Chemical Corporation
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Emergency telephone number +81-6-6203-3741 / +81-3-3270-8571

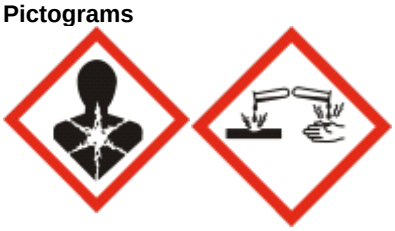
Recommended uses and restrictions on use For research purposes

Section 2: HAZARDS IDENTIFICATION

GHS classification
Classification of the substance or mixture

Serious eye damage/eye irritation	Category 1
Reproductive Toxicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 2
Category 2 upper respiratory tract	
Aquatic environment (acute hazard)	Category 3

Pictograms



Signal word Danger

Hazard statements
H318 - Causes serious eye damage
H361 - Suspected of damaging fertility or the unborn child
H402 - Harmful to aquatic life
H373 - May cause damage to the following organs through prolonged or repeated exposure: upper respiratory tract

Precautionary statements-(Prevention)
- Obtain special instructions before use
- Do not handle until all safety precautions have been read and understood
- Use personal protective equipment as required.
- Do not breathe dust/fume/gas/mist/vapors/spray
- Avoid release to the environment

Precautionary statements-(Response)

• IF exposed or concerned: Get medical advice/attention
• IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
• Immediately call a POISON CENTER or doctor/physician

Precautionary statements-(Storage)
• Store locked up.

Precautionary statements-(Disposal)
• Dispose of contents/container to an approved waste disposal plant

Others
Other hazards Not available

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Single Substance or Mixture Substance

Formula C7H6O2

Chemical Name	Weight-%	Molecular weight	ENCS	ISHL No.	CAS RN
Benzoic acid	99.5	122.12	(3)-1397	公表	65-85-0

Impurities and/or Additives： Not applicable

Section 4: FIRST AID MEASURES

Inhalation
Remove to fresh air. If symptoms persist, call a physician.

Skin contact
Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.

Eye contact
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediate medical attention is required.

Ingestion
Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. Do not induce vomiting without medical advice.

Protection of first-aiders
Use personal protective equipment as required.

Section 5: FIRE FIGHTING MEASURES

Suitable extinguishing media
Water spray (fog), Carbon dioxide (CO2), Foam, Extinguishing powder, Sand

Unsuitable extinguishing media
No information available

Special extinguishing method
No information available

Specific hazards arising from the chemical product
Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Protection of fire-fighters
Use personal protective equipment as required. Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
For indoor, provide adequate ventilation process until the end of working. Deny unnecessary entry other than the people involved by, for example, using a rope. While working, wear appropriate protective equipments to avoid adhering it on skin, or inhaling the gas. Work from windward, and retract the people downwind.

Environmental precautions

To be careful not discharged to the environment without being properly handled waste water contaminated.

Methods and materials for contaminent and methods and materials for cleaning up

Sweep up and gather scattered particles, and collect it in an empty airtight container.

Recoverly, neutralization

No information available

Secondary disaster prevention measures

Clean contaminated objects and areas thoroughly observing environmental regulations.

Section 7: HANDLING AND STORAGE

Handling

Technical measures

Avoid contact with strong oxidizing agents. Use with local exhaust ventilation.

Precautions

Do not rough handling containers, such as upsetting, falling, giving a shock, and dragging. Prevent leakage, overflow, and scattering. Not to generate steam and dust in vain. Seal the container after use. After handling, wash hands and face, and then gargle. In places other than those specified, should not be smoking or eating and drinking. Should not be brought contaminated protective equipment and gloves to rest stops. Deny unnecessary entry of non-emergency personnel to the handling area.

Safety handling precautions

Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

Storage

Safe storage conditions

Storage conditions	Keep container protect from light, store in well-ventilated place at room temperature (preferably cool). Keep container tightly closed.
Safe packaging material	Polyethylene
Incompatible substances	Strong oxidizing agents

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls

In case of indoor workplace, seal the source or use a local exhaust system. Provide the safety shower facility, and hand- and eye-wash facility. And display their position clearly.

Exposure limits	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Personal protective equipment

Respiratory protection	Dust mask
Hand protection	Protection gloves
Eye protection	protective eyeglasses or chemical safety goggles
Skin and body protection	Long-sleeved work clothes

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Form	
Color	white
Appearance	crystals - crystalline powder
Odor	characteristic odor
pH	No data available
Melting point/freezing point	121-124 °C
Boiling point, initial boiling point and boiling range	249 °C
Flash point	121 °C / 250 °F
Evaporation rate:	No data available
Flammability (solid, gas):	No data available
Upper/lower flammability or	

explosive limits

Upper：	No data available
Lower：	No data available
Vapour pressure	No data available
Vapour density	No data available
Specific Gravity / Relative density	1.3g/ml (20°C)
Solubilities	water : slightly soluble . Ethanol , Diethyl ether , organic solvents : freely soluble .
n-Octanol/water partition coefficient:(log Pow)	1.87
Auto-ignition temperature:	532 °C / 990 °F
Decomposition temperature:	No data available
Viscosity (coefficient of viscosity)	No data available
Dynamic viscosity	No data available

Section 10: STABILITY AND REACTIVITY

Stability

Stability	May be altered by light.
Reactivity	No data available

Hazardous reactions

None under normal processing

Conditions to avoid

Extremes of temperature and direct sunlight, Moisture

Incompatible materials

Strong oxidizing agents

Hazardous decomposition products

Carbon monooxide (CO), Carbon dioxide (CO2)

Section 11: TOXICOLOGICAL INFORMATION

Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Benzoic acid	1700 mg/kg (rat)	> 2000 mg/kg (rabbit)	> 12.2 mg/L (rat) 4h

Chemical Name	Acute toxicity -oral- source information	Acute toxicity -dermal- source information	Acute toxicity -inhalation gas- source information
Benzoic acid	As LD50 values of rat, 1,700 mg / kg (Ministry of the Environment Risk Assessment, Vol. 7: preliminary hazard assessment sheet (2009), SIDS (2004)), 2,530 mg / kg, 2,565 mg / kg (SIDS (2004)) , 2,700mg / kg (JECFA FAS5 (1974)), 3,040 mg / kg (SIDS (2004), CICAD 26 (2005)) has been reported. Was a corresponding large number of classified.	As LD50 value of the rabbit,> 2,000 mg / kg,> 5,000 mg / kg (SIDS (2004)),> 10,000 mg / kg (SIDS (2004), CICAD 26 (2005)) on the basis of the report of, was classified .	Based on the NITE GHS classification results.

Chemical Name	Acute toxicity -inhalation vapor- source information	Acute toxicity -inhalation dust- source information	Acute toxicity -inhalation mist- source information
Benzoic acid	Based on the NITE GHS classification results.	LC50 values at 4 o'clock inhalation exposure of rats> was classified on the basis of the 12.2 mg / L (SIDS (2004)). Incidentally, the LC50 value is the saturated vapor pressure concentration degree (0.005 mg / L) or more, the test is based on the description of that place in dust, it was applied a reference value for the mg / L as a unit.	LC50 values at 4 o'clock inhalation exposure of rats> was classified on the basis of the 12.2 mg / L (SIDS (2004)). Incidentally, the LC50 value is the saturated vapor pressure concentration degree (0.005 mg / L) or more, the test is based on the description of that place in dust, it was applied a reference value for the mg / L as a unit.

Skin irritation/corrosion

Chemical Name	Skin corrosion irritation source information
Benzoic acid	The SIDS (2004), are reported as "no irritation," "mild irritant" or test according to test guideline. On the other hand, 32 people in a patch test using this substance containing 0.5% to reports and vaseline to irritation in 614 people in 18 people in the patch test using this substance containing 0.05% in ethanol or cream was seen because there is a report of the urticaria was seen in seven, they were not be classified.

Serious eye damage/ irritation

Chemical Name	Serious eye damage source information
Benzoic acid	In SIDS (2004), since it has been reported in test according to test guideline and "severe irritation" or "corrosive", it was classified as Category 1.

Respiratory or skin sensitization

Chemical Name	Respiratory, Skin sensitization source information
Benzoic acid	Respiratory sensitization: Not possible to classify because of insufficient data. Skin sensitization: The A SIDS (2004), the data to be in a test according to test guideline that no "sensitization have been reported on the other hand, as the effects on humans, containing 0.5% petrolatum. reports of hives in 32 people in 7 people in the patch test using the substance was observed (SIDS (2004)), to 2,045 patients of dermatology, were patch tested at 5% concentration of this substance Na salt a result, five people had seen a positive reaction (0.2%) report and that was only, as a result of the patch test to 5,202 patients believed to have allergies or irritation to the cosmetics in this material, such as reporting to a positive reaction in 34 patients (0.7%) was observed, there is a report a large number of that there is sensitization. (Ministry of the Environment risk assessment, Vol. 7: preliminary hazard assessment sheet (2009)) However, in SIDS (2004), in a healthy person from the fact that concluded that unlikely to occur is sensitization, and can not be classified.

Reproductive cell mutagenicity

Chemical Name	Mutagenic source information
Benzoic acid	It can not be classified because of insufficient data. In other words, in vivo data on this substance is not, in in vitro, reverse mutation test of bacteria, which is negative in the chromosomal aberration test in cultured mammalian cells (SIDS (2004), CICAD 26 (2000), JECFA FAS 48 (2002)). However, SIDS (2004), sodium benzoate is this substance and related substances that, potassium benzoate, including benzyl alcohol, mutagenic and clastogenic has been described as a no.

Carcinogenicity

Chemical Name	Carcinogenicity source information
Benzoic acid	This material is, for the group in the EPA D (IRIS (1991)), and can not be classified.

Reproductive toxicity

Chemical Name	Reproductive toxicity source information
Benzoic acid	Toxicity has not been seen Reproductive and developmental in a four-generation reproductive toxicity study by the oral route using rats (diet) (SIDS (2004), CICAD 26 (2000), Ministry of the Environment Risk Assessment, Vol. 7: tentative hazard evaluation sheet (2009), HSDB (Access on September 2013)). In addition, with respect to the developmental toxicity, not seen reported that developmental toxicity and an increase in embryo absorption in developmental toxicity studies of the oral route using rats (force) was seen (HSDB (Access on September 2013)) (SIDS (2004), CICAD 26 (2000), Ministry of the Environment risk assessment, Vol. 7: resorption in developmental toxicity studies in the preliminary hazard assessment sheet (2009) and of the report, oral route (forced using hamster) it has been reported that the increase in the growth and malformation has been seen (HSDB (Access on September 2013). since the report of the developmental toxicity was seen is only from the information source of Listing 2, was classified as category 2 .

STOT-single exposure

Chemical Name	STOT -single exposure- source information
Benzoic acid	It can not be classified because of insufficient data. The effect on weight gain in the guidance segment 2 doses (1,984 mg / kg) in oral administration in rats is described with was observed (SIDS (2004)). CICAD 26 diarrhea in rats of oral route (2000) (dose unknown), muscle weakness, tremors, hyperactivity of spontaneous movement, there is a description of the weakness was seen. Although temporary spontaneous movement of hyperactivity and salivation in inhalation exposure concentration outside the scope of the guidance in the (dust) (12.2 mg / L) of the rat was observed, it was restored after the (SIDS (2004)) and of it is described. There is no description for clear toxic symptoms shall be deemed to be replaced is LD50> 2,000 mg / kg in the dermal exposure of rabbit. From the above results, it is not possible to classify because of insufficient data from that there is no evidence sufficient to determine the classification.

STOT-repeated exposure

Chemical Name	STOT -repeated exposure- source information
Benzoic acid	Toxicological findings have not been seen in a dose exceeding the guidance value of Category 2 in the dermal exposure of oral exposure and rabbit rat (SIDS (2004), CICAD 26 (2000), IUCLID (2000)). On the other hand, this substance aerosol in the 4-week inhalation exposure were tested in rats, division within the range of 2 of the guidance value (guidance value in terms of concentration: 0.078 mg / L) concentration in the upper respiratory tract inflammation, decrease in kidney weight watching It is (SIDS (2004), CICAD 26 (2000), IUCLID (2000), HSDB (Access on October 2013)) is, the kidney is not accompanied by a pathological tissue changes, insufficient to the target organ it is determined that there. From the above results, it was classified as Category 2 (upper respiratory tract).

Aspiration hazard

Chemical Name	Aspiration Hazard source information
Benzoic acid	Based on the NITE GHS classification results.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Benzoic acid	*EC50:Anabaena inaequalis 5 mg/L 3 h*	*LC50:Bluegills 44.6 mg/L 96h*	*EC50:Daphnia magna 300 mg/L 24 h EC50:Daphnia magna 860 mg/L 48 h*

Other data

Chemical Name	Aquatic toxicity -Acute- source information	Aquatic toxicity -Chronic- source information
Benzoic acid	It was classified as Category 3 from 96-hour LC50 = 44.6 mg of fish (bluegill) / L (SIDS, 2004).	Chronic toxicity data with reliability can not be obtained. There is a rapidly degrading (BOD resolution = 85% in two weeks (the existing inspection, 1979)), but the acute toxicity is Category 3, is estimated to have a low bioaccumulation (LogP = 1.88 (SIDS, 2004)), it was classified.

Persistence and degradability No information available
Bioaccumulative potential No information available
Mobility in soil No information available
Hazard to the ozone layer No information available
Mobility

Section 13: DISPOSAL CONSIDERATIONS

Waste from residues

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated container and contaminated packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14: TRANSPORT INFORMATION

ADR/RID	Not regulated
UN number	-
Proper shipping name:	
UN classfication	
Subsidiary hazard class	
Packing group	
Marine pollutant	Not applicable
IMDG	Not regulated
UN number	-
Proper shipping name:	
UN classfication	
Subsidiary hazard class	
Packing group	
Marine pollutant (Sea)	Not applicable
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	No information available
IATA	Not regulated
UN number	-
Proper shipping name:	
UN classfication	
Subsidiary hazard class	
Packing group	
Environmentally Hazardous Substance	Not applicable

Section 15: REGULATORY INFORMATION

International Inventories

EINECS/ELINCS	Listed
TSCA	Listed

Japanese regulations

Fire Service Act	Not applicable
Poisonous and Deleterious Substances Control Law	Not applicable
Industrial Safety and Health Act	Not applicable
Regulations for the carriage and storage of dangerous goods in ship	Not applicable
Civil Aeronautics Law	Not applicable
Pollutant Release and Transfer Register Law	Not applicable
Export Trade Control Order	Not applicable

Section 16: OTHER INFORMATION

Key literature references and sources for data etc.	NITE: National Institute of Technology and Evaluation (JAPAN) http://www.safe.nite.go.jp/japan/db.html IATA dangerous Goods Regulations RTECS:Registry of Toxic Effects of Chemical Substances Japan Industrial Safety and Health Association GHS Model SDS Dictionary of Synthetic Oraganic Chemistry , SSOCJ, Koudansha Scientific Co.Ltd. Chemical Dictionary, Kyouritsu Publishing Co., Ltd.

etc

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
GHS Classification is acoording to JIS Z7252(2014). *JIS: Japanese Industrial Standards

End of Safety Data Sheet