OTTO CHEMIE PVT LTD

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----------ISO 9001: 2015----------

MATERIAL SAFETY DATA SHEET

1.Identification
1.1GHS Product identifier
Benzoic acid, GR 99%+
Code B 1557

2.Hazard identification
2.1Classification of the substance or mixture
Skin irritation, Category 2
Serious eye damage, Category 1
Specific target organ toxicity \u2013 repeated exposure, Category 1
2.2GHS label elements, including precautionary statements
Pictogram(s)

Signal word	Danger
Hazard statement(s)	H315 Causes skin irritation H318 Causes serious eye damage H372 Causes damage to organs through prolonged or repeated exposure
Precautionary statement(s)	
Prevention	P264 Wash ... thoroughly after handling. P280 Wear protective gloves/protective clothing/eye protection/face protection. P260 Do not breathe dust/fume/gas/mist/vapours/spray. P270 Do not eat, drink or smoke when using this product.
Response	P302+P352 IF ON SKIN: Wash with plenty of water/... P321 Specific treatment (see ... on this label). P332+P313 If skin irritation occurs: Get medical advice/attention. P362+P364 Take off contaminated clothing and wash it before reuse. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, i present and easy to do. Continue rinsing. P310 Immediately call a POISON CENTER/doctor/\u2026 P314 Get medical advice/attention if you feel unwell.
Storage	none
Disposal	P501 Dispose of contents/container to ...

2.3Other hazards which do not result in classification
none

3.Composition/information on ingredients
3.1Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
benzoic acid	benzoic acid	65-85-0	none	100%

4.First-aid measures
4.1Description of necessary first-aid measures
General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.
If inhaled
Fresh air, rest.
In case of skin contact
Remove contaminated clothes. Rinse and then wash skin with water and soap.
In case of eye contact
First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.
If swallowed

Rinse mouth. Induce vomiting (ONLY IN CONSCIOUS PERSONS!). Refer for medical attention .
4.2Most important symptoms/effects, acute and delayed
Dust may be irritating to nose and eyes. At elevated temperatures, fumes may cause irritation of eyes, respiratory system, and skin. (USCG, 1999)
4.3Indication of immediate medical attention and special treatment needed, if necessary
Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand-valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR as necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. /Organic acids and related compounds/

5.Fire-fighting measures
5.1Extinguishing media
Suitable extinguishing media
If material on fire or involved in fire: Use water in flooding quantities as fog. Solid streams of water may spread fire. Cool all affected containers with flooding quantities of water. Apply water from as far a distance as possible. Use foam, dry chemical, or carbon dioxide.
5.2Specific hazards arising from the chemical
Behavior in Fire: Vapor from molten benzoic acid may form explosive mixture with air. Concentrated dust may form explosive mixture. (USCG, 1999)
5.3Special protective actions for fire-fighters
Wear self-contained breathing apparatus for firefighting if necessary.

6.Accidental release measures
6.1Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.
6.2Environmental precautions
Personal protection: protective clothing and face shield. Sweep spilled substance into covered plastic containers. If appropriate, moisten first to prevent dusting. Wash away remainder with plenty of water.
6.3Methods and materials for containment and cleaning up
Cover with soda ash or sodium bicarbonate. Mix and add water.

7.Handling and storage
7.1Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use.Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.
7.2Conditions for safe storage, including any incompatibilities
The bulk material should be stored in well-closed container in a cool dry place.

8.Exposure controls/personal protection
8.1Control parameters
Occupational Exposure limit values
no data available
Biological limit values
no data available
8.2Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
8.3Individual protection measures, such as personal protective equipment (PPE)
Eye/face protection
Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Skin protection
Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique(without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.
Respiratory protection
Wear dust mask when handling large quantities.
Thermal hazards
no data available

9.Physical and chemical properties

Physical state	Colorless crystalline solid with faint pleasant odor.
Colour	Monoclinic tablets, plates, leaflets
Odour	Odorless or with a slight benzaldehyde odor
Melting point/ freezing point	316\u00b0C(lit.)
Boiling point or initial boiling point and boiling range	249\u00b0C(lit.)

Flammability	Combustible.
Lower and upper explosion limit / flammability limit	no data available
Flash point	121\u00b0C
Auto-ignition temperature	571.67\u00b0C
Decomposition temperature	no data available
pH	About 4 (solution in water)
Kinematic viscosity	1.26 cP at 130\u00b0C
Solubility	In water:Slightly soluble(r.t.). 1.7 g/L (0 \u00b0C), 2.7 g/L (18 \u00b0C), 3.44 g/L (25 \u00b0C), 5.51 g/L (4 \u00b0C), 21.45 g/L (75 \u00b0C), 56.31 g/L (100 \u00b0C)
Partition coefficient n-octanol/water (log value)	no data available
Vapour pressure	10 mm Hg (132 \u00b0C)
Density and/or relative density	1.2659 g/cm3 (15 \u00b0C), 1.0749 g/cm3 (130 \u00b0C)
Relative vapour density	4.21 (vs air)
Particle characteristics	no data available

10.Stability and reactivity
10.1Reactivity
no data available
10.2Chemical stability
A 0.1% w/v aqueous solution of benzoic acid has been reported to be stable for at least 8 weeks when stored in polyvinyl chloride bottels, at room temperature.
10.3Possibility of hazardous reactions
Slight, when exposed to heat or flame...Dust explosion possible if in powder or granular form, mixed with air.At high temperature BENZOIC ACID can react with oxidizing reagents.
10.4Conditions to avoid
no data available
10.5Incompatible materials
Undergoes typical reactions of an organic acid, e.g. with alkalis or heavy metals. Preservative activity may be reduced by interaction with kaolin.
10.6Hazardous decomposition products
When heated to decomp it emits acrid smoke and irritating fumes.

11.Toxicological information
Acute toxicity
Oral: LD50 Cat oral 2000 mg/kg
Inhalation: LC50 Rat inhalation >0.026 mg/L/1 hr
Dermal: no data available
Skin corrosion/irritation
no data available
Serious eye damage/irritation
no data available
Respiratory or skin sensitization
no data available
Germ cell mutagenicity
no data available
Carcinogenicity
Cancer Classification: Group D Not Classifiable as to Human Carcinogenicity
Reproductive toxicity
no data available
STOT-single exposure
no data available
STOT-repeated exposure
no data available
Aspiration hazard
no data available

12.Ecological information
12.1Toxicity
Toxicity to fish: no data available
Toxicity to daphnia and other aquatic invertebrates: EC50; Species: Daphnia magna (Waterflea); Concentration: 500 mg/L for 24 hr, neutral pH; 102 mg/L for 24 hr, acid pH; Effect: immobilization /Conditions of bioassay not specified in source examined/ /from table
Toxicity to algae: EC50; Species: Chlorella pyrenoides (Algae); Concentration: 60 mg/L for 3 hr; Effect: photosynthesis reduction /Conditions of bioassay not specified in source examined/ /from table
Toxicity to microorganisms: no data available
12.2Persistence and degradability
AEROBIC: Benzoic acid is biodegradable under aerobic conditions by bacteria present in crude municipal wastewater at less than or equal to 200 g/cu m.
12.3Bioaccumulative potential

Measured BCF values of <10, 14, and 21 were reported for Golden ide (Leuciscus idus melanotus)(1), trout(2), and mosquito fish (Gambusia affinis)(3), respectively. According to a classification scheme(4), this BCF range suggests the potential for bioconcentration in aquatic organisms is low(SRC). Bioconcentration factors of <10(1), 100, 138, 1800, 2800(3) and 10(4) have been reported in algae (Chorella fusca)(1), algae (Oedogonium cardiacum), mosquito larvae (Culex quinquifasciatus), daphnia (Daphnia magna) and snail (Physa), respectively(3).

12.4Mobility in soil

Koc of benzoic acid is estimated as 15(SRC), using a log Kow of 1.87(1) and a regression-derived equation(2). An experimental log Koc of 1.50 (Koc = 31) has been reported, test details not available(3). According to a classification scheme(4), these Koc values suggest that benzoic acid is expected to have very high mobility in soil. The pKa of benzoic acid is 4.20(5), indicating that this compound will exist in anion form in the environment and anions generally do not adsorb more strongly to organic carbon and clay than their neutral counterparts(6). Freundlich adsorption constants of 0.23, 0 and 0 were reported using Ersum sandy till (pH 4.7; 0.25% OC), Tirstrup melt water sand (pH 6.1; 0.09% OC) and Djursland clayey till (pH 7.6; 0.22% OC), respectively, at 6\u00b0C. Soils were collected in North Sealand and Djursland, Jutland(7). Benzoic acid displayed negligible adsorption when using a montmorillonite (Volclay bentonite, Upton WY) clay(8).

12.5Other adverse effects

no data available

13.Disposal considerations

13.1Disposal methods

Product

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.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

14.Transport information

14.1UN Number

ADR/RID: UN3077 IMDG: UN3077 IATA: UN3077

14.2UN Proper Shipping Name

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

IATA: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

14.3Transport hazard class(es)

ADR/RID: 9 IMDG: 9 IATA: 9

14.4Packing group, if applicable

ADR/RID: III IMDG: III IATA: III

14.5Environmental hazards

ADR/RID: no IMDG: no IATA: no

14.6Special precautions for user

no data available

14.7Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

no data available

15.Regulatory information

15.1Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
benzoic acid	benzoic acid	65-85-0	none
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Not Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.

Section 16: Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.