SAFETY DATA SHEET (SDS)
(1272/2008/CE)

Trade Name: POTASSIUM BENZOATE	**Edition:** April 24, 2015 **Version:** 6/en

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND COMPANY / UNDERTAKING			
Trade name	**Potassium Benzoate**		
Synonyms	Benzoic acid, potassium salt		
Recommended use and restriction on use	Use as a preservative in food, feed, pharmaceutical and industrial applications. Use according to local regulations.		
Company	Macco Organiques Inc., 100 McArthur, Valleyfield, Qc, Canada, J6S 4M5		
Responsable service	Tel: (450) 371-1066 macco@macco.ca	Fax: (450) 371-5519 http://www.macco.ca	
Emergency phone numbers	CANUTEC (613) 996-6666	CHEMTREC, U.S. (800) 424-9300	International (703) 527-3887

2. HAZARDS IDENTIFICATION	
The substance is not classified as dangerous according to European Union (EU) directives 1272/2008, in replacement for 67/548/EEC including amendments and 1999/45/EC.	
Classification	Not classified.
Labeling type instruction	This product does not require any labeling according to EU directives and regulations of the concerned country.
Other hazards	Combustible dust. May form explosive mixture with air.

3. COMPOSITION / INFORMATION ON INGREDIENTS	
Chemical name	Potassium Benzoate 100%
Synonyms	Benzoic acid, potassium salt
Chemical formula	$KC_7H_5O_2$
CAS no.	582-25-2
EEC (CE) no.	E 212
EINECS no.	209-481-3

4. FIRST-AID MEASURES	
DESCRIPTION OF FIRST AID EMERGENCIES	
General advices	In case of accident or illness, immediately get medical attention (show the label if possible). Show this safety data sheet to the physician. Remove and wash contaminated clothing before reusing.
Inhalation	If inhaled, move the person to fresh air. If not breathing, give artificial respiration. Get medical attention if any symptoms occur.
Skin contact	Rinse with water and wash with soap. Obtain medical attention if any symptoms occur.
Eye contact	In case of contact with eyes, rinse immediately with plenty of water. Obtain medical attention if any symptoms occur.

Ingestion	Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention if any symptoms occur.
POTENTIAL ACUTE HEALTH EFFECTS	
Inhalation	Not considered to be toxic to humans.
Ingestion	Not considered to be toxic to humans.
Skin	Slightly irritant.
Eyes	Slightly irritant.
Potential chronic health effect	Carcinogenic effects: Not classified or listed by IARC, NTP, OSHA, EU and ACGIH. Mutagenic effects: No known significant effects. Teratogenic effects: No known significant effects.
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training.
Notes to physician	No specific antidote. Medical staff must contact a Poisons Information Center.
For more detailed information on health effects and symptoms, refer to section 11.	

5. FIRE-FIGHTING MEASURES

APPROPRIATE EXTINGUISHING MEDIA	
Suitable	Carbon dioxide (CO_2) Water spray Foam Dry powder Use an extinguishing agent suitable for the surrounding fire.
Not suitable	None known.
Special exposure hazards	No specific hazard.
Risks associated with thermal decomposition products	Under certain conditions, airborne dust of potassium benzoate can explode when ignited by an electrostatic spark, flame or other ignition source. Potassium Benzoate can burn when heated to decomposition.
Other fire-fighting measures	Fire residues and contaminated firefighting water must be disposed of according to local and national regulations.
Special protective equipment	Wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. For individual protection equipment, refer to section 8.
Special risks	Potassium Benzoate can burn when heated to decomposition. Similar to dust of most combustible compounds, under certain conditions the airborne dust of this substance may explode when ignited by a spark, flame or other ignition sources. When evaluating the explosion hazard potential for the material, consider particle shape and size, dust concentration, presence of impurities, oxygen concentration, humidity and extent of containment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment. For individual protective equipment, refer to section 8.

Environmental precautions	Avoid dispersal of spilled material, runoff and contact with soil, waterways, drains and sewers.
Cleaning methods	If emergency personnel are unavailable, vacuum or carefully scoop up spilt material and place in an appropriate container for disposal. Avoid creating dusty conditions and prevent wind dispersal. Dispose of as special waste according to local and national regulations. Thoroughly clean the floor and objects contaminated by observing environmental regulations. Refer to section 7 for handling directives.

7. HANDLING AND STORAGE	
Handling directives	Avoid dust formation during handling. DO NOT INGEST without prior transformation. Avoid all possible sources of ignition (spark or flame). Dry sweeping is not recommended. Do not perform any welding, cutting, drilling or other work that is susceptible to cause heat on or near empty container or transfer equipment until all combustible solids have been removed. Avoid dust accumulation. Pre-wet the material or use a vacuum equipped with high efficiency filter(s). The use of compressed air to clean equipment, clothing, etc. is not recommended. Provide ventilation and/or adequate ventilation in the working area. Refer to section 6 for environmental precautions.
Fire and explosion protection recommendations	Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. NO SMOKING.
Requirements for warehouses and containers	Store in the original container.
Storage information compatibility	Keep away from incompatible materials such as metals and strong acids, or oxidizing agents. Keep away from food, drink and animal feeding stuffs.
Storage recommendations	Store in a tightly closed container in a dry, cool and well-ventilated area.
Storage temperature	< 30°C, not critical. Store away from direct sunlight.
General hygiene	Eating, drinking and smoking in work area is prohibited, wash hands after use and remove contaminated clothing and protective equipment before entering eating areas.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION	
Personal protective equipment must be selected and used according to local laws and regulations. In the EU Personal Protection Equipment are managed through the Council Directive 89/686/EEC.	
Professional exposure limits	TWA PEL: No specific exposure limit has been established for this material. For reference, OSHA and ACGIH have established the following limits which are generally recognized for inert or nuisance dust. Particulates Not Otherwise Regulated (PNOR) 15mg/cu. meter.
Recommended monitoring procedures	If this product is present at levels above the exposure limit, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for the determination hazardous substances.

Occupational exposure controls	No special ventilation requirements. Good general ventilation should be sufficient to control airborne levels to an acceptable limit. If the exposure exceeded the limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.
Respiratory protection	A respirator is not needed under normal or intended conditions of product use. Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. 
Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Reference should be made to European Standard EN 374. 
Eye protection	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. Reference should be made to European Standard EN 166. 
Body and skin protection	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
General protection and hygiene measures	Avoid dust inhalation. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the working area.
Technical measures	Provide adequate ventilation, especially in confined areas. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. PHYSICAL AND CHEMICAL PROPERTIES	
Appearance (physical state & colour)	Low dust white to off-white powder or granules
Odour	Faint odor (Slight)
Odour threshold	Not available
pH *Temperature* *Concentration*	7 - 9 20 ℃ (5% w/v)

Melting point	> 300°C (572°F)
Boiling point	Not applicable
Flash point	Not applicable
Evaporation rate	Not applicable
Flammability	Low, however airborne dust may present hazard
Explosive properties	Risks of explosion of the product in presence of mechanical impact: Not applicable. Risks of explosion of the product in presence of static discharge: Not applicable, except for airborne dust. Maximum explosion pressure: 630 kPa (6.3 bar; 91.3 psi) Reference Sodium benzoate Maximum rate of pressure rise: Not available
Vapour pressure	0 kPa (0 mm Hg) (at 20°C)
Vapour density	Not applicable
Relative density	Not available
Bulk density (tapped)	0.38 - 0.80 g/mL
Water solubility	52 g/100 ml water
Temperature	20°C
Note: Partially soluble in ethanol and methanol. Insoluble in acetone and benzene.	
Partition coefficient (n-octanol/water) (log value)	2.27
Measure type	Mesured
Auto-ignition temperature	560°C (1040°F) (cloud)
Decomposition temperature	Not available
Viscosity	Not available

10. STABILITY AND REACTIVITY	
Reactivity	No know reactivity under normal conditions of use.
Stability	This product is stable and not hygroscopic.
Hazardous reactions	No dangerous reaction known under normal conditions of use.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame).
Materials to avoid	Reactive with acids. Slightly reactive or incompatible with active metals (Aluminum, Magnesium).
Hazardous decomposition products	Under fire conditions or above decomposition temperature emits carbon monoxide and dioxide.

11. TOXICOLOGICAL INFORMATION	
Oral toxicity	> 4500 mg/kg (potassium benzoate)
Test criteria	LD_{50}
Species used for the test	Rat
Note: No known significant effects or critical hazard.	
Inhalation Toxicity	>12.2 mg/l (benzoic acid)
Test criteria	LC_{50}
Species used for the test	Rat (adult)
Note: No known significant effects or critical hazard.	
Skin toxicity	> 2000 mg/kg (benzoic acid)
Test criteria	LD_{50}
Species used for the test	Rabbit (adult)
Human Experience	No known significant effect or critical hazards.
Skin corrosion/irritation	Slightly hazardous in case of skin contact (irritant) but not sufficient to cause classification.
Serious eye damage/irritation	Slightly hazardous in case of eye contact (irritant) but not sufficient to cause classification.
Skin sensitization	No sensibility reaction observed. Prolonged contact with concentrated solutions may cause redness, drying and cracking of the skin (dermatitis).
Other Toxicity	No known significant effects or critical hazard.
Mutagenicity (germ cell) Reproduction	No known significant effect or critical hazards.
Carcinogenicity	No known significant effect or critical hazards.
Developmental toxicity (maternal and teratoxicity)	NOAEL (No-observed-adverse-effect level) = 175, 175, 250, 300, 1400 mg/kg/day, (Sodium Benzoate) Rat, mouse, rabbit, hamster, rat 6-15 days, 6-15 days, 6-18 days, 6-10 days, entire gestation
STOT-single exposure	NOAEL (No-observed-adverse-effect level) : Not available
STOT-Repeated exposure	NOAEL (No-observed-adverse-effect level) > 3145 mg/kg/day (Sodium Benzoate) Rat Repeated oral dose study

12. ECOLOGICAL INFORMATION		
Ecotoxicity		
Toxicity to fish	> 100 mg/l (Static) (Sodium Benzoate)	484 mg/l (flow through) (Sodium Benzoate)
Test criteria	LC_{50}	EC_{50}
Species used for the test	*Pimephales promelas*	*Pimephales promelas*
Exposure time	96 h	96 h

Toxicity to bacteria	≥ 3000 mg/mL (Sodium Benzoate)
Test criteria	EC_{50}
Species used for the test	*Achromonacter liquefaciens*
Administration duration	24 hours
Toxicity to daphnies	> 100 mg/l (static) (Sodium Benzoate)
Test criteria	EC_{50}
Species used for the test	*Daphnia magna*
Exposure time	96 h
Biodegradability	Readily biodegradable
Persistance	Not persistent
Bioaccumulation	Low bioaccumulation potential
Mobility in soil	Not available
Bioconcentration Coefficient factor (BCF)	Not available
Determination results for PTB properties	PBT (Persistent, Bioaccumulation and toxic) and vPvB (Very Persistent and Very Bioaccumulative) evaluation: Not applicable

Notes: May be harmful to freshwater aquatic species and to plants that are not saline tolerant. This product will contribute to the total Biological Oxygen Demand (BOD).

Other adverse effects: No known significant effects or critical hazards.

13. DISPOSAL CONSIDERATIONS

Waste residues information	The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewer. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation, and any national and local authority requirements. Refer to section 7 for handling directives and section 8 for exposure controls and personal protections.
Contaminated packaging	Dispose of as waste residues.
Waste classification	Not classified
European waste catalogue (EWC)	Not classified
Hazardous waste	To the knowledge of the supplier, this product is not regarded has a hazardous waste as define in the guideline 94/904/EC.

14. TRANSPORT INFORMATIONS

INTERNATIONAL TRANSPORT REGULATIONS

Regulatory Information	Proper shipping name	Class	UN Number	PG	Label	Additional information
ADR/RID Class	Not applicable	-	Not regulated	-	-	-
ADNR Class	Not applicable	-	Not regulated	-	-	-
IMDG Class	Not applicable	-	Not regulated	-	-	-
IATA Class	Not applicable	-	Not regulated	-	-	-
DOT Class	Not applicable	-	Not regulated	-	-	-
TDG Class	Not applicable	-	Not regulated	-	-	-

ADR/RID: European road and rail transport regulation.
ADNR: Rhine maritime transport regulation.
IMDG: International maritime dangerous goods regulation.
IATA/DGR: International air transport regulation.
DOT: Department of transport regulation.
TMD: Transport of dangerous goods regulation.
PG: Packaging group.

15. REGULATORY INFORMATIONS

EUROPEAN UNION REGULATIONS

Classifications	This product is not classified according to EU legislation, including SVHC and RoHS.
Contains	Not applicable
Product use	Classification and labelling have been performed according to EU directives 1272/2008 (including amendments) replacing 67/548/EEC and 1999/45/EC and according to the intended use. Industrial applications.

U.S.A

HCS classification	Not regulated
U.S.A. federal regulations	TSCA 8(b) inventory: benzoic acid, potassium salt
	SARA 302/304/311/312 extremely hazardous substances: Not listed. SARA 302/304 emergency plan and notification: Not listed. SARA 302/304/311/312 hazardous chemicals: Not listed. SARA 311/312 MSDS distribution – chemical inventory – hazard identification: Not listed. CWA (Clean Water Act) 307: Not listed. CWA (Clean Water Act) 311: Not listed. CAA (Clean Air Act) 112 accidental release prevention: Not listed. CAA (Clean Air Act) 112 regulated flammable substances: Not listed. CAA (Clean Air Act) 112 regulatory toxic substances: Not listed. Defined as non hazardous by Occupational Safety and Health Administration (OSHA) hazard communication standard 29 CFR 910.1200(d).
State regulations	California prop. 65: Not listed.

CANADA			
WHMIS (Canada)	Not regulated CEPA DSL: Benzoic acid, potassium salt		
This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.			
National Fire Protection Association (U.S.A.)		**Hazardous Material Information System (U.S.A.)**	**HMIS Rating** Health: 1 Fire hazard: 1 Physical hasard: 0 Personal protection: C
4- Extreme **3- Serious** **2- Moderate** **1- Slight** **0- Minimal**	**Blue : Health** **Red : Flammability** **Yellow : Reactivity** **White : Special**	**4- Extreme** **3- Serious** **2- Moderate** **1- Slight** **0- Minimal**	

OTHER COUNTRY INVENTORIES	
AICS	Listed, not regulated
ENCS	Listed, not regulated
IESCSC	Listed, not regulated
PICCS	Listed, not regulated
KECL	Listed, not regulated
NZIOC	Listed, not regulated

16. OTHER INFORMATIONS	
Other information	General update of the document.
Department issuing the safety data sheet	Technical Services, Macco
HISTORY	
Edition date	09 DE 2014
Previous edition date	01 FE 2012

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials or preparation may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

References:

ChemIDplus Lite.

SIDS Initial Assessment Report for 13th SIAM, UNEP Publication.

Appendix I DID List, Detergents Ingredients Database, Version January 2007.

PAN pesticide database, www.pesticideinfo.org, accessed on November 04, 2014.

TOXNET database, www.toxnet.nlm.nih.gov, accessed on October 15, 2014.

CSST- Service du répertoire toxicologique, www.csst.qc.ca/prevention/reptox/Pages/repertoire-toxicologique.aspx, accessed on December 4, 2014.

C&L Inventory database http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database, accessed on December 9, 2014.