

**Section 1: PRODUCT AND COMPANY IDENTIFICATION**

<b>Product name</b>	Benfuracarb Standard
<b>Product code</b>	023-09551
<b>CAS No</b>	82560-54-1
<b>Formula</b>	C <sub>20</sub> H <sub>30</sub> N <sub>2</sub> O <sub>5</sub> S
<b>Manufacturer</b>	Wako Pure Chemical Industries, Ltd. 1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan Phone: +81 (0)6-6203-3741 Fax: +81 (0)6-6201-5964
<b>Supplier</b>	Wako Pure Chemical Industries, Ltd. 1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan Phone: +81 (0)6-6203-3741 Fax: +81 (0)6-6201-5964
<b>Emergency telephone number</b>	+81-6-6203-3741 / +81-3-3270-8571
<b>Recommended uses and restrictions on use</b>	For research purposes

**Section 2: HAZARDS IDENTIFICATION****GHS classification****Classification of the substance or mixture**

Acute toxicity - Oral

Category 3

Acute toxicity - Inhalation (Vapors)

Category 2

Serious eye damage/eye irritation

Category 2B

Specific target organ toxicity (single exposure)

Category 1

Category 1 nervous system

aquatic environment (acute hazard)

Category 1

aquatic environment (long-term hazard)

Category 1

**Pictograms****Signal word**

Danger

**Hazard statements**

H320 - Causes eye irritation

H301 - Toxic if swallowed

H330 - Fatal if inhaled

H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

H370 - Causes damage to the following organs: nervous system

**Precautionary statements-(Prevention)**

- Wash face, hands and any exposed skin thoroughly after handling
- Do not eat, drink or smoke when using this product
- Do not breathe dust/fume/gas/mist/vapors/spray
- Avoid release to the environment

**Precautionary statements-(Response)**

- IF exposed: Call a POISON CENTER or doctor/physician
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- If eye irritation persists: Get medical advice/attention.
- IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
- Rinse mouth.
- Collect spillage

**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** C<sub>20</sub>H<sub>30</sub>N<sub>2</sub>O<sub>5</sub>S

Chemical Name	Weight-%	Molecular weight	ENCS	ISHL No.	CAS No
Benfuracarb	98	410.53	(5)-5639	8-(4)-928	82560-54-1

**Impurities and/or Additives :** Not applicable

### Section 4: FIRST AID MEASURES

**Inhalation**

Move to fresh air in case of accidental inhalation of vapors or decomposition products. Call a physician immediately.

**Skin contact**

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a physician.

**Eye contact**

Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.

**Ingestion**

Call a physician or poison control center immediately. Rinse mouth. Never give anything by mouth to an unconscious person.

**Protection of first-aiders**

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

### Section 5: FIRE FIGHTING MEASURES

**Suitable extinguishing media**

Use, Dry chemical, carbon dioxide (CO<sub>2</sub>), Water spray (fog), Alcohol resistant foam

**Unsuitable extinguishing media**

No information available

**Special extinguishing method**

No information available

**Specific hazards arising from the chemical product**

Keep product and empty container away from heat and sources of ignition. Risk of ignition

**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**

Use personal protective equipment as required. Keep people away from and upwind of spill/leak. Remove all sources of ignition. Evacuate personnel to safe areas. Pay attention to flashback. Take precautionary measures against static discharges.

**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. See Section 12 for additional ecological information.

**Methods and materials for contaminant and methods and materials for cleaning up**

Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading. Dike far ahead of liquid spill for later disposal. Absorb dry sand, earth, sawdust and the waste. Collect empty container that can be sealed.

**Recovery, 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**

Highly flammable. Avoid contact with high temperature objects, spark, and 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**

Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors).

**Storage****Safe storage conditions****Storage conditions**

Container protected from light, and store tightly closed in freezer (-20°C). Packed with an inert gas. Store locked up.

**Safe packaging material**

Glass

**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**

Protective mask

**Hand protection**

Protection gloves

**Eye protection**

Tight sealing safety goggles

**Skin and body protection**

Gloves made of plastic or rubber, Suitable protective clothing, Wear chemical resistant clothing such as gloves, apron, boots or whole bodysuits made from neoprene, as appropriate, Antistatic footwear

**General hygiene considerations**

Wash hands thoroughly after handling. Avoid contact with skin, eyes or clothing. When using do not eat, drink or smoke.  
Regular cleaning of equipment, work area and clothing is recommended. Do not eat, drink or smoke when using this product

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES****Form**

Color Colorless - yellow brown ,  
Turbidity clear  
Appearance liquid

**Odor**

No data available

**pH**

No data available

**Melting point/freezing point**

No data available

**Boiling point, initial boiling point and boiling range**

110 °C

**Flash point**

No data available

**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)**

1.142

**Solubilities**

Water : practically insoluble, or insoluble . acetone : insoluble .

**n-Octanol/water partition coefficient:(log Pow)**

No data available

**Auto-ignition temperature:**

No data available

**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**

Heat, flames and sparks, Extremes of temperature and direct sunlight, static electricity, spark

**Incompatible materials**

Strong oxidizing agents

**Hazardous decomposition products**Carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>)**Section 11: TOXICOLOGICAL INFORMATION****Acute toxicity**

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Benfuracarb	105 mg/kg ( Rat )	> 2000 mg/kg ( Rat )	240 mg/m <sup>3</sup> ( Rat ) 4 h

Component	Acute toxicity -oral- source information	Based on the NITE GHS classification results.	Acute toxicity -inhalation gas- source information
Benfuracarb 82560-54-1 ( 98 )	LD50(oral,rat):110 mg/kg(male), 105 mg/kg(female)	LD50(skn,rat):>2000 mg/kg.	Based on the NITE GHS classification results.

Component	Acute toxicity -inhalation vapor-source information	Acute toxicity -inhalation dust-source information	Acute toxicity -inhalation mist-source information
Benfuracarb 82560-54-1 ( 98 )	Based on the NITE GHS classification results.	LC50 (ihl, rat) : 0.15 mg/L (Pesticide registration application materials)	LC50 (ihl, rat): 0.15 mg/L (Pesticide registration application materials).

**Skin irritation/corrosion**

Component	Skin corrosion irritation source information
Benfuracarb 82560-54-1 ( 98 )	Based on the NITE GHS classification results.

**Serious eye damage/ irritation**

Component	Serious eye damage source information
Benfuracarb 82560-54-1 ( 98 )	Based on the NITE GHS classification results.

**Respiratory or skin sensitization**

Component	Respiratory, Skin sensitization source information
Benfuracarb 82560-54-1 ( 98 )	Based on the NITE GHS classification results.

**Reproductive cell mutagenicity**

Component	Mutagenic source information
Benfuracarb 82560-54-1 ( 98 )	Based on the NITE GHS classification results.

**Carcinogenicity**

Component		Carcinogenicity source infotmation		
Benfuracarb 82560-54-1 ( 98 )		Based on the NITE GHS classification results.		
Chemical Name	NTP	IARC	ACGIH	Japan
Benfuracarb 82560-54-1		Group 2A		

**Reproductive toxicity**

Component	Reproductive toxicity source information
Benfuracarb 82560-54-1 ( 98 )	Based on the NITE GHS classification results.

**STOT-single exposure**

Component	STOT -single exposure- source information
Benfuracarb 82560-54-1 ( 98 )	Based on the NITE GHS classification results.

**STOT-repeated exposure**

Component	STOT -repeated exposure- source information
Benfuracarb 82560-54-1 ( 98 )	Based on the NITE GHS classification results.

**Aspiration hazard**

Component	Aspiration Hazard source information
Benfuracarb 82560-54-1 ( 98 )	Based on the NITE GHS classification results.

## Section 12: ECOLOGICAL INFORMATION

**Ecotoxicity****Other data**

Component	Aquatic toxicity -Acute- source information	Aquatic toxicity -Chronic- source information
Benfuracarb 82560-54-1 ( 98 )	EC50(Daphnia magna) : 0.0099mg/L/48hr(Pesticide registration application materials, 2004).	Acute toxicity is a Category 1, but bioaccumulation is low(BCF=90(Pesticide registration application materials, 1989)), Estimated that there is no rapid degradation.(BIOWIN).

**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

### 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

UN number	UN2992
Proper shipping name:	Carbamate pesticide, liquid, toxic(Benfuracarb)
UN classification	6.1
Subsidiary hazard class	
Packing group	III
ERG Code	6L
Marine pollutant	Yes

#### IMDG

UN number	UN2992
Proper shipping name:	Carbamate pesticide, liquid, toxic(Benfuracarb)
UN classification	6.1
Subsidiary hazard class	
Packing group	III
EmS-No	F-A, S-A
Marine pollutant (Sea)	Yes

#### IATA

UN number	UN2992
Proper shipping name:	Carbamate pesticide, liquid, toxic(Benfuracarb)
UN classification	6.1
Subsidiary hazard class	
Packing group	III
Environmentally Hazardous Substance	Yes

### Section 15: REGULATORY INFORMATION

#### International Inventories

EINECS/ELINCS	-
TSCA	-

#### Japanese regulations

Fire Service Act	Category IV, Class I I I petroleums, dangerous grade 3
Poisonous and Deleterious Substances Control Law	Deleterious Substances 3rd. Grade
Industrial Safety and Health Act	Not applicable
Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc	Not applicable
Regulations for the carriage and storage of dangerous goods in ship	Toxic Substances - Poison (Ordinance Art.3, Ministry of Transportation Ordinance Regarding Transport by Ship and Storage, Attached Table 1)
Civil Aeronautics Law	Toxic and Infectious Substances (Ordinance Art.194, MITL Notification for Air Transportation of Explosives etc., Attached Table 1)

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**Pollutant Release and Transfer  
Register Law** Class 1

**Class 1 - No.** 221  
**Export Trade Control Order** Not applicable

## Section 16: OTHER INFORMATION

### Literature and references

**Revision Note** No information available

### 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 according to JIS Z7252(2010). \*JIS: Japanese Industrial Standards

**End of Safety Data Sheet**