

## Product Technical Data Sheet

Product name:  Coenzyme Q10

AC code: AC05080f

1.Technical Data Sheet			
Chemical Name		Ubiquinone	
CAS number		303-98-0	
Molecular weight		863.343	
Molecular Formula		C59H90O4	
Compliance (Food / Pharmacopoeia / FCC / Feed)		Food / Pharmacopoeia / Cosmetic	
Source (animal, plant, mineral, petrochemical)		Bacteria	
<b>Brief introduction:</b>			
Coenzyme Q10, also known as ubiquinone, is a coenzyme family that is ubiquitous in animals and most bacteria (hence the name ubiquinone). In humans, the most common form is coenzyme Q10 or ubiquinone-10, as a dietary supplement and is an ingredient in some cosmetics and pharmaceutical industry.			
The biggest application of Coenzyme Q10 is in cardiovascular products, the ingredient is in yellow to orange crystalline powder, no less than 98.0% and not more than 101.0% of C59H90O4 calculated on the anhydrous basis.			
Item		Standard	Analysis Method
Appearance & Solubility			
Appearance		Yellow to orange crystalline powder	
Solubility		Soluble in ether, very slightly soluble in dehydrated alcohol; practically insoluble in water	
Particle Size		90% pass through 80 mesh	Sieve
Typical Analysis			
Identification		IR	IR spectrum of the test specimen should be consistent with the IR spectrum of reference standard
		Color Reaction	Blue Color Reaction
Assay		98.0~ 101.0%	HPLC
Melting Point		48℃ ~ 52℃	Enterprise Standard
Loss on Drying		≤0.2%	USP <921>
Residue on Ignition		≤0.1%	USP <281>
Chromatographic Purity		Related Impurity	≤1.0%
		Isomer and related impurities	≤0.5%
		Total impurities (Test 1 & 2)	≤1.5%
Residual Solvent		Ethanol	≤5000ppm
		Ethyl Acetate	≤5000ppm

	n-Hexane	≤290ppm	
	n-Heptane	≤5000ppm	
<b>Heavy metals</b>			
Total Heavy Metals	≤10 ppm		USP <233>
Lead	≤0.5 ppm		USP <233>
Arsenic	≤1.0 ppm		USP <233>
Cadmium	≤0.5 ppm		USP <233>
Mercury	≤0.1 ppm		USP <233>
<b>Microorganism</b>			
Aerobic bacterial count	≤1,000 cfu/g		USP <61>
Total Molds & Yeasts	≤50 cfu/g		USP <61>
Bile-tolerant gram negative bacteria	≤10 MPN/g		USP <61>
E.Coli	Negative/10g		USP <62>
Salmonella	Negative/25g		USP <62>
Pseudomonas aeruginos	Negative/10g		USP <62>
Staphylococcus aureus	Negative/25g		USP <62>
<b>Storage &amp; Shelf Life</b>			
Package	5kgs/tin, 10kgs/carton		
Shelf life	The shelf life for the product is 24 months from date of production. Use it as soon as possible once it is opened.		
Storage	Store in unopened original package under clean and dry condition, away		

## 2.Origin & ingredient

Country of origin of the product: China

Origin statement: available ☒

This product is a pure material <input checked="" type="checkbox"/>		This product is a compound material <input type="checkbox"/>	
Animal origin	<input type="checkbox"/> bovine	Specific Source: /	
	<input type="checkbox"/> porcine	Specific Source: /	
	<input type="checkbox"/> ovine	Specific Source: /	
	<input type="checkbox"/> Others:	Specific Source: /	
Synthetic	<input type="checkbox"/>	Starting material:	origin: /
Biotechnological processing	<input type="checkbox"/> Catalysis By Enzymes	Name Of Enzyme: / Sources Of Enzymes: /	
	<input checked="" type="checkbox"/> Fermentation	Source Of Medium: / Strain: Bacteria as Rhodobacter Sphaeroides	
Botanical Origin	Botanical Name:	/	
	Part:	/	
	Wild Or Cultivated:	/	
	Country Of Origin:	/	
	Solvent Used:	/	



For compound material, all compounds are listed (e.g. antioxidants; coating materials and with their functions):

Each ingredient including food additives	Percentage %	Function (e.g. Nutrient, Binder, Diluent, carrier)	Source Material(s)	Country of Origin of the Source Material
Coenzyme Q10	100%	Nutrient	Bacteria	China
Remarks:	Compounds may change according to customized formula from customer			
Processing aid used	<input type="checkbox"/>			
Name of processing aids:	Purpose:		Source:	
/	/		/	

3.Nutrition Data	
Nutritional Composition	<input checked="" type="checkbox"/> Per 100g <input type="checkbox"/> Per Serving
<input type="checkbox"/> Energy(Kj) <input checked="" type="checkbox"/> Energy(Kcal)	1kcal
Fat(G)	0.1
Carbohydrates(G)	1
Protein(G)	0.1
Sodium (Mg)	0
Remarks: Nutrition Data Are Obtained By 3 <sup>rd</sup> Party Lab; Tested On A Yearly Basis	

4.Manufacture Details	
Manufacturer Name:	Qingdao Acerbio Technology Ltd
Address:	Tianmu Road, Laiyang Development District, Yantai, Shandong
Main Products:	Fermentation Products including Coenzyme Q10, Hyaluronic Acid, L-Ergothioneine
Capacity Of Production	200mt per year
Number Of Employees in Production: 40	Number Of Employees in QA / QC.:12
Quality And Food Safety Management System Certificated By Accredited Authority. E.G.: ISO Series, GFSI Series HACCP GMP、CGMP FAMI-QS、GMP+	ISO9001 Series: <input type="checkbox"/> ISO9001 <input type="checkbox"/> ISO22000 <input type="checkbox"/> ISO14001 <input type="checkbox"/> ISO45000  GFSI Series: <input checked="" type="checkbox"/> BRC <input type="checkbox"/> FSSC22000 <input type="checkbox"/> IFS <input type="checkbox"/> SQF  <input type="checkbox"/> GMP <input type="checkbox"/> HACCP <input type="checkbox"/> FAMI-QS <input type="checkbox"/> GMP+
Product Related Certificates	<input checked="" type="checkbox"/> HALAL <input type="checkbox"/> KOSHER <input type="checkbox"/> IP <input type="checkbox"/> ORGANIC
Suitable For Vegan	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
We Confirm Above Mentioned Certificates Or Related Statement And Keep Available <input checked="" type="checkbox"/>	

5.Process quality and food safety	
Flow chart:	

This product specification has listed the detailed process flow chart of each step of the actual production process from raw material pretreatment to finished product warehousing, including possible additives, processing aids, steps to remove foreign matters, CCP, water used, compressed air etc.		Integrity flow chart available <input checked="" type="checkbox"/>
<b>CCP in place</b>		
CCP info.	CL	Location in process
<b>Foreign body control</b>		
Have implemented control procedures for glass, fragile plastic materials <input checked="" type="checkbox"/>		
<b>Pest control</b>		
Conducted by manufacturer: <input checked="" type="checkbox"/> by external contractor <input type="checkbox"/> Name of contractor:		
<b>Batch no. &amp; traceability</b>		
Batch size :	500kgs	
Batch definition:	Signification of the batch no. by an example: In 789093. If you subtract 7, 8, 9, 0, 9 and 3, you get the last two digits of the year, month, and date in the production date, such as 2021/09/06, that is the production date	
We confirm that we perform batch and traceability management on the whole process from raw material receiving, production process, storage and transportation, by focusing on raw materials, semi-finished products, production processing and transportation, related records and product labels. Take traceability exercise on a annual basis.		
<b>Supply chain custody</b>		
list all the stages in the process of supply chain including detail of every link back to farm, field or ocean. Every time the raw material is moved, paid for, handled, stored or processed, and final to customer		
<div style="display: flex; align-items: center; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px; text-align: center;">product loading at plant</div> <div style="text-align: center;">( domestic transportation )</div> <div style="border: 1px solid black; padding: 5px; text-align: center;">loading into container at port warehouse</div> <div style="text-align: center;">( sea transportation )</div> <div style="border: 1px solid black; padding: 5px; text-align: center;">warehousing &amp; storage overseas</div> </div> <div style="display: flex; align-items: center; justify-content: space-around;"> <div style="text-align: center;">→</div> <div style="border: 1px solid black; padding: 5px; text-align: center;">loading into container</div> <div style="text-align: center;">( 3 party delivery )</div> <div style="border: 1px solid black; padding: 5px; text-align: center;">customer receiving</div> </div>		

6. GMO declaration	YES	NO
The product does not contain or consist of GMO	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The product is not produced from GMO or not contain ingredients produced from GMO (irrespective of whether there is NDA or protein of GM origin in the final production)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
This product is not produced by means of GM microorganism including precursor substances, e.g. with GMOs or Genetically Modified microorganisms processing aids (bacteria, yeast,...)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
This product is not produced with the help of enzymes, which were obtained from GMOs	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Does the product contain any ingredients from animal?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If yes, are genetically modified crops contained in the feed for the animal?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
We confirm that this product complies with regulations EC/1829/2003 and EC1830/2003 and keep NON-GMO statement available		<input checked="" type="checkbox"/>

## 7. Allergen declaration

We have carefully reviewed this product according to EU Regulation 1169/2011 and modifications and confirm the following:

	Direct incorporation as a base raw material or in a derivative form (don't forget the carriers, the additives and the processing aids)		CROSS CONTAMINATION					
			Presence on the production line		Presence on the production workshop		Presence on the production factory	
	Yes (precise nature)	No	Yes (precise the nature)	No	Yes (precise the nature)	No	Yes (precise the nature)	No
Cereals containing gluten(1) and products thereof		N		N		N		N
Crustaceans and products thereof		N		N		N		N
Eggs and products thereof		N		N		N		N
Fish and products thereof (2)		N		N		N		N
Peanuts and products thereof		N		N		N		N
Soybeans and products thereof (3)		N		N		N		N
Milk and products thereof (including lactose)(4)		N		N		N		N
Nuts (5) or products thereof		N		N		N		N
Celery and products thereof		N		N		N		N
Mustard and products thereof		N		N		N		N
Sesame seeds and product thereof		N		N		N		N
Sulphur dioxide and sulphites at concentrations of more than 10mg/kg or 10 mg/l expressed as SO <sub>2</sub>		N		N		N		N
Lupines and products thereof		N		N		N		N
Mollusc and product thereof		N		N		N		N

- (1) Cereals which contain gluten (i.e. wheat, rye, barley, oats, spelt, kamut or their hybridised strains) except: wheat-based glucose syrups including dextrose, wheat-based maltodextrins, glucose syrups based on barley, cereals used for making distillates or ethyl alcohol of agricultural origin for spirit drinks and other alcoholic beverages;
- (2) Except: fish gelatine used as carrier for vitamin or carotenoid preparations, fish gelatine or Isinglass used as fining agent in beer and wine;
- (3) Except fully refined soybean oil and fat, natural mixed tocopherols (E306), natural D-alpha tocopherol, natural D-alpha tocopherol acetate, natural D-alpha tocopherol succinate from soybean sources; vegetable oils derived phytosterols and phytosterol esters from soybean sources; plant stanol ester produced from vegetable oil sterols from soybean sources;
- (4) Except when used for making distillates or ethyl alcohol of agricultural origin for spirit drinks and other alcoholic beverages, lactitol;
- (5) almond (*Amygdalus communis* L.) hazelnuts (*Corylus avellana*), walnut (*Juglans regia*), cashew (*Anacardium occidentale*), pecan nuts (*Carya illinoensis*), brazil nut (*Bertholletia excelsa*), pistachio nut (*Pistacia vera*), macadamia nut and queensland nut (*Macadamia terniflora*) and products thereof, except nuts used for making distillates or ethyl alcohol of agricultural origin for spirit drinks and other alcoholic beverages;

8.NON IRRADIATION		
(According to EU directive 1999/2/EC & 1999/3/EC)		
This product has not been treated with ionising radiation	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
None of the raw materials we used for this product have been treated with ionising radiation.	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
We confirm above Non-Irradiation statement is available	<input checked="" type="checkbox"/>	

9.NANOMATERIAL		
(according to EU Regulation (EU) No. 1169/2011)		
This product does not contain any nanomaterials as defined in EU food legislation	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
This product has not been made with nanotechnology	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
We confirm above Non-Nanomaterial statement is available	<input checked="" type="checkbox"/>	

10. Residual solvents	
(according to UE Directive 2009/32 modified by(UE)2010/59; EP5.4;USP476;ICH Q3C(R7))	
For this product following solvents are used during production process: Solvent A:                      max residual level:	<input checked="" type="checkbox"/> solvent used <input type="checkbox"/> solvent not used
We confirm solvent residual of this product complies with:	<input checked="" type="checkbox"/> EP5.4 <input checked="" type="checkbox"/> USP <476> <input checked="" type="checkbox"/> ICH Q3C(R7) <input checked="" type="checkbox"/> Directive 2010/59/EU <input checked="" type="checkbox"/> NA
We confirm Solvent residual statement is available	<input checked="" type="checkbox"/>

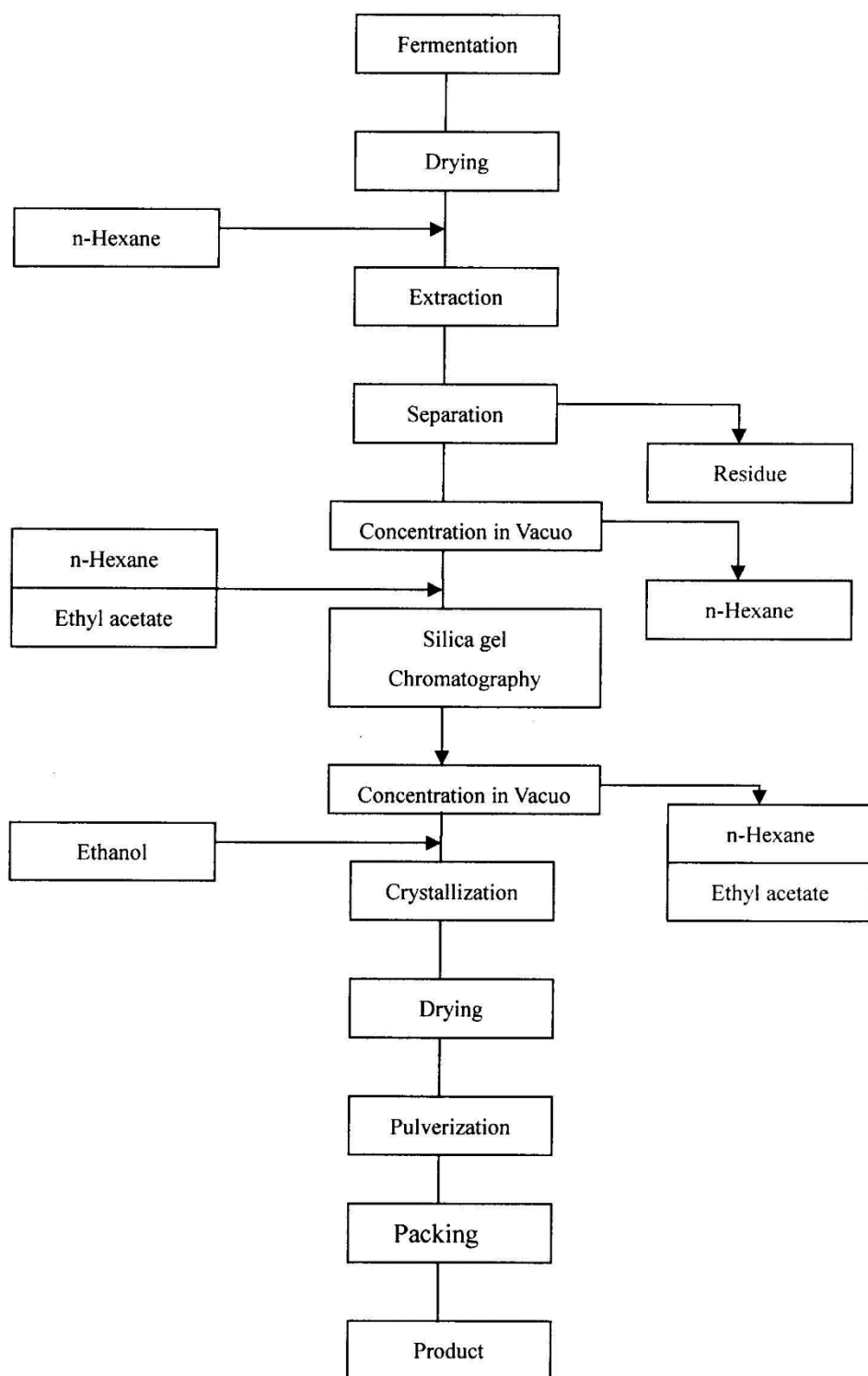
11.Pesticide residual	
(according to EC 396/2005; EP07; USP <561>)	
This product is of vegetable origin	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
We confirm pesticide residual of this product complies with:	<input checked="" type="checkbox"/> EC 396/2005 <input checked="" type="checkbox"/> EP 07/2008 <input checked="" type="checkbox"/> USP<561> <input type="checkbox"/> N/A
Pesticide residual statement available	<input checked="" type="checkbox"/>

12.BSE/TSE information	
(according to EU legislation 999/2001; EP general chapter 5.2.8)	
Cattle, sheep, goats and animals that are naturally susceptible to infect with transmissible spongiform encephalopathy agents or susceptible to infection through the oral route other than humans and non-human primates are defined as "ESE-relevant animal species"	
Pigs ad birds are not naturally susceptible to infection via the oral route; therefore, they are not TSE-relevant animal	

species. Dogs, rabbits and fish are not TES-relevant animal species.”	
the product contains no ingredients of ruminant origin and no materials derived from, or exposed to ruminants affected by or under quarantine for Transmitting Transmissible Spongiform Encephalopathy (TSE) / Bovine Spongiform Encephalopathy (BSE)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> NA
In the manufacturing of this product, there is no any raw or source material and /or reagent used that is of animal origin i.e. bovine, serum-albumin, enzymes, culture broths including those used to prepare working or master cell tanks	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Equipment/systems/tools use for processing or storage of the material do not come into contact at any time with materials of animal origin (e.g., components of media filler used to check such system)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
The material is not purified by using solvents, chromatographic media or buffers that contain components of animal origin	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
We confirm this product complies with:	<input checked="" type="checkbox"/> EU legislation 999/2001 & <input type="checkbox"/> EP general chapter 5.2.8
We confirm BSE/TSE statement is available	<input checked="" type="checkbox"/> YES

13.Contaminants information	
(according to UE regulation NO.1881/2006 and NO.629/2008 as regards maximum levels for certain contaminants in foodstuff)	
<ul style="list-style-type: none"> <li>●Aflatoxin B1 &lt;5ppb</li> <li>●Aflatoxins B1 + B2 + G1 + G2 &lt;10ppb</li> <li>●Ochratoxin A &lt;15ppb</li> </ul>	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> NA
●Melamine	<input checked="" type="checkbox"/> YES
For polycyclic aromatic hydrocarbons, in cocoa fibre, banana chips, food supplements and their preparations, dried herbs <i>and dried spices</i> : <ul style="list-style-type: none"> <li>●Maximum level of 10 µg/kg of benzo(a)pyrene</li> <li>●50 µg/kg for the sum of PAH4 (PAH4; benzo[a]pyrene, chrysene, benz[a]anthracene and benzo[b]fluoranthene) in food supplements</li> </ul>	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> NA
We confirm this product complies with NO.1881/2006 and NO.629/2008 and keep compliance statement available	<input checked="" type="checkbox"/> YES

## Flow Chart of Coenzyme Q10







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## Material Safety Data Sheet (MSDS)

### COENZYME Q10

#### 1. PRODUCT IDENTIFICATION

**Product Name:** Coenzyme Q10

**INCI Declaration:** Coenzyme Q10 (ubiquinone, ubidecarenone)

**CAS Number:** 303-98-0 (coenzyme Q10)

**EINECS Number:** 206-147-9

#### 2. PHYSICAL & CHEMICAL PROPERTIES

**Melting Point:** about 48°C (124°F)

**Boiling Point:** not determined

**Vapor Pressure:** not determined

**Vapor Density:** not determined

**Particle Size:** 80mesh

**Density:** about 0.5g/ml

**Solubility in water:** insoluble

**pH Value:** 4 - 7

**Appearance & Odor:** yellow or orange crystalline powder

#### 3. STABILITY & REACTIVITY

**Chemical Stability:** stable when stored light-protected

**Incompatibility:** none known

**Hazardous Decomposition Products:** none known; displays gradual pyrolysis when heated to 120°C or higher

**Hazardous Polymerisation:** will not occur

#### 4. HANDLING & STORAGE

Avoid contact with eyes. Wash thoroughly after handling. As with all chemicals, good industrial hygiene practices should be followed when handling this material.

Avoid freezing or excessive heat. Do not handle or store near an open flame, heat or other sources of ignition.

Keep the container tightly closed and in a cool, well-ventilated place.

#### 5. ACCIDENTAL RELEASE MEASURES

Isolate spill area immediately. Keep unauthorized personnel away.

Ventilate closed spaces before entering. Do not touch or walk through spilled material. Prevent entry into waterways, sewers, basements or confined areas. Surface may become slippery after spillage. Use vacuum or broom sweeping and remove to disposal container. If damp, flush with water.

#### 6. EXPOSURE CONTROLS & PERSONAL PROTECTION

**Respiratory Protection:** Where exposure likely exceeds acceptable criteria, use NIOSH/OSHA-approved respiratory equipment.

**Protective Clothing:** Gloves recommended to prevent skin contact. Safety glasses, goggles, or face shield recommended for eye protection.

**Other Protective Measures:** Employees must practice good personal hygiene, washing exposed areas of skin several times daily and laundering contaminated clothing before re-use.

#### 7. HAZARDS IDENTIFICATION

**General:** Non hazardous and non combustible.



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**Inhalation:** Not a primary route of entry. Mists and vapors may cause dizziness (alcohol)

**Eye Contact:** May cause slight irritation. Irrigate eye with water. Seek medical attention if symptoms persist.

**Skin Contact:** Not a skin irritant.

**Ingestion:** No specific hazard known. CoQ10 can be consumed up to 5-10 mg/d through food products.

## **8. FIRST AID MEASURES**

**Eyes:** Irrigate eyes with a heavy stream of water for at least 15 to 20 minutes. If irritation persists get medical attention.

**Skin:** Wash exposed areas of the body with soap and water.

**Inhalation:** Remove from area of exposure. If breathing is difficult, give oxygen. Seek medical attention if symptoms persist.

**Ingestion:** If gastrointestinal symptoms develop, consult medical personnel.

## **9. FIRE FIGHTING MEASURES**

**Flammability Limits:** None known

**Unusual Fire Hazard:** None known

**Fire Fighting Procedures:** Firefighters should wear full firefighting turn-out gear (full Bunker gear) including NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

## **10. TOXICOLOGICAL INFORMATION**

**Acute Toxicity:** LD50 >4 g/kg (oral, rats)

**Subchronic Toxicity:** No pathological findings were observed when 1 g/kg was continually administered to rats for 5 weeks

**Chronic Toxicity:** No pathological findings were observed when 0.6 g/kg was continually administered to rats for 26 weeks

**Teratogenicity:** not teratogenic effects observed in rats

## **11. DISPOSAL CONSIDERATIONS**

Storage and disposal must be in accordance with applicable local, state & federal disposal regulations. Characterization and compliance with applicable laws are the responsibility solely of the generator.

## **12. TRANSPORT INFORMATION**

**General:** not regarded as hazardous material

**DOT Shipping Name:** Refer to corresponding hazard class

**ADR/RIC Code:** Refer to corresponding hazard class

**Sea Transport IMDG Code:** Refer to corresponding hazard class

**Air Transport IATA:** Refer to corresponding hazard class

## **13. DISCLAIMER**

This 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 other process. Such information is to be the best of the company's knowledge and believed accurate and reliable as of the date indicated. However, no representation, warranty or guarantee of any kind, express or implied, is made as to its accuracy, reliability or completeness and we assume no responsibility for any loss, damage or expense, direct or consequential, arising out of use. It is the user's responsibility to satisfy himself as to the suitability & completeness of such information for his own particular use.