



CREATE
IN **GSH**
WORLD





GSH Bio-tech Co., Ltd is a professional manufacturer focusing on research, development and producing the reduced glutathione (GSH) by biocatalytic method. The annual production capability can be reached to 200tons, and the quality of glutathione reached at pharmaceutical grade.

Since the very beginning of company setting-up, we have been dedicated on the environment saving and product quality increasing. We utilize the patented methods to produce the GSH with energy consumption at 70% less and pollution discharge at 80% less, compared with traditional way. Green production is our always persistent endeavor; no any heavy metal iron is added during the whole production process.

So far, we produce three grades of glutathione, pharmaceutical and biotech, dietary supplement and cosmetic.



CERTIFICATES



Shenzhen GSH Bio-Technology Co., Ltd
 3 Building Tongfuyu Industrial Zone Fuyong Street
 Bao'an District Shenzhen China 518103
 Tel: +86 755 25855480 Fax: +86 755 82583562
 www.gsh-world.com sales@gsh-world.com



ALLERGEN- INFORMATION ACCORDING TO 2603/8/EC

Name of producer: Shenzhen GSH Bio-Technology Co., Ltd. Product code: C45 16-18-8
 Name of product: **Reduced Glutathione**
 EAN code: -

Presence or absence of allergens

- Product:**
- The article contains the mentioned substance (as an ingredient) or may contain the mentioned substance (through carry over).
 - The article is free from mentioned substance (according to the prescriptions).
- If there is insufficient information available or if the article contains just traces of the pertinent substance.

	Presence (*)	Absence (✓)	Presence (*)	Absence (✓)
1 Milk & products thereof	-	20	Not oil	-
2 Milk co-products	-	21	Proteins	-
3 Lactose	-	22	Proteins of	-
4 Eggs & products thereof	-	23	Soya	-
5 Soybeans & products thereof (seed, flou, MGSB, etc.)	-	24	Soya meal	-
7 Tree nuts	-	25	Sulphur	-
8 Wheat	-	26	Supplies, dyes and pigments (E200 to E226) - in case of (*) indicate the concentration expressed as weight/weight (g/kg)	-
9 Cereals containing gluten & products thereof (except of (*) indicate the source)	-	27	Benzoic acid and parabens (E210 to E216)	-
10 Potatoes	-	28	ADU dyes (E102, E104, E124, E126, E128, E129, E131, E132, E150)	-
11 Cereals	-	29	Tartrazine (E102)	-
12 Top - glutaric acid and derived products (incl. adipic acid)	-	30	Sorbic acid (E200 to E202)	-
13 Shellfish and Crustaceans	-	31	Cinnamyl	-
14 Mustard	-	32	Vanillin	-
15 Sesame	-	33	Cinnamyl	-
16 Mustard	-	34	Salicyl	-
17 Unguents/balms	-	35	Unifolles	-
18 Almonds	-	36	Coumarin	-
19 Nuts	-	37	Mutagen	-

(*) Cereals containing gluten (wheat, rye, barley, oats, spelt, kamut or their hybridized strains)
 (**) Nuts (wheat, rye, barley, oats, spelt, kamut or their hybridized strains)
 (**) Nuts (wheat, rye, barley, oats, spelt, kamut or their hybridized strains): Hazelnut (Corylus avellana), Walnut (Juglans regia), Cashew (Anacardium occidentale), Pecan nut (Carya alba), Pistachio nut (Pistacia vera), Macadamia nut and Queensland (Macadamia ternstroemia) and products thereof

Overview of the presence or absence of ingredients



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CERTIFICATE OF ANALYSIS

Product name: L-Glutathione reduced (medical grade)
 CAS: 70-18-8
 Batch No.: 2014B901
 Quantity:
 Product date: 2015/6/1
 Expiry date: 2018/5/31
 Sample Date:
 Report Date:
 Package: 25 kg/drum

ITEM	STANDARD	RESULT
Content	90%-102%	100.5%
Character	Appearance	White or almost white, crystalline powder or colorless crystals. qualified
	Solubility	Freely soluble in water, very slightly soluble in ethanol (50 percent) and in methylene chloride. qualified
Identification	Specific optical rotation	-15.5 to -17.5 (dried substance) -16.5 qualified
	Infrared absorption spectrophotometry	Same as L-glutathione reduced CRS. qualified
Impurity	L-cysteinylglycine	0.2%
	Cysteine	0.5%
	Bis(L-glutamyl-L-cysteinylglycine) disulfide (L-glutathione oxidized)	Maximum 3 percent 0.25%
	L-γ-glutamyl-L-cysteine	0.32%
	Unknown structure (product of degradation)	1.24%
Chlorides	Maximum 300 ppm	qualified
Sulphates	Maximum 400 ppm	qualified
Ammonium	Maximum 200 ppm	qualified
Iron	Maximum 30 ppm	qualified
Heavy metals	Maximum 10 ppm	qualified
Loss on drying	Maximum 3 percent	qualified
Sulphated ash	Maximum 0.1 percent	qualified

Operator: Director



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GMO FREE STATEMENT

Date: 22th July, 2015 Place: Shenzhen, China

Dear Sir or Madam

We, Shenzhen GSH Bio-Technology Co., Ltd., hereby certify that L-Glutathione Reduced, manufactured by us is not derived from or produced using GMOs or their derivatives, and that all reasonable steps have been taken to avoid contamination from GMOs or their derivatives.

Thank you for your kind attention to this matter

Sincerely yours



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Reduced Glutathione Material Safety Data Sheet

1. PREPARATION AND THE COMPANY

PRODUCT NAME: Reduced Glutathione
 COMPANY: Shenzhen GSH Bio-Technology Co., Ltd
 ADDRESS: 1st Building South Area Xinhe Industrial Zone Fuyong Street Bao'an District Shenzhen China

BUSINESS PHONE: 86-755-23577296
 BUSINESS FAX: 86-755-23577296

2. COMPOSITION INFORMATION ON INGREDIENTS

SUBSTANCE NAME: Reduced Glutathione
 CAS NO.: 70-18-8
 FORMULA: C10H17N3O6S

3. HAZARDS IDENTIFICATION

HMS RATING:

Health: 0
 Flammability: 0
 Reactivity: 0
 NFPA RATING:
 Health: 0
 Flammability: 0
 Reactivity: 0

For additional information on toxicity, please refer to section 11

4. FIRST AID MEASURES

PACKAGING



USES



Cosmetic



Pharmaceutical and Biotech



Dietary Supplement

products

L-Glutathione Reduced(GSH)

L-Glutathione is an endogenous tripeptide composed of glutamic acid, cysteine, and glycine.



Molecular Formula
C10H17N3O6S

Cas.No	70-18-8
Assay	98.0-101%
Description	White crystals or crystalline powder odorless or slightly, odorless or slightly characteristic odor, Acid taste,
Packaging	25kg per drum or packing as per customer's request
Uses	Pharmaceutical API, Biotech, Cosmetics, Dietary Supplement

L-Glutathione Oxidized (GSSG)

Oxidized form of glutathione, a ubiquitous antioxidant involved in many cellular functions such as detoxification, amino acids transport, production of coenzymes and recycling of vitamins E and C.



Molecular Formula
C20H32N6O12S2

Cas.No	27025-41-8
Assay	98.0-102%
Description	White crystalline powder
Packaging	25kg per drum or packing as per customer's request
Uses	By serving as a critical nucleophilic scavenger, glutathione blocks free radical damage to all types of tissues. Reduction of glutathione (G-SH) of lipid peroxides can restore hydroxy compounds itself into oxidized glutathione.

PRODUCTS

Adenosine Triphosphate (ATP)

ATP is the abbreviation for English name.

Chemical name: 5' - triphosphate - 9 -β-D- ribofuranose base - 6 - amino purine.



Molecular Formula
C₁₀H₁₆N₅O₁₃P₃

Cas.No	56-65-5
Assay	98.0-101%
Description	White crystalline powder
Packaging	25kg per drum or packing as per customer's request
Uses	This product is a kind of coenzyme. To improve body metabolism, involved in body fat, protein, sugar, nucleic acid and nucleotide metabolism, is also the main source of energy in the body.

Adenosine Monophosphate(AMP)

White or almost white crystalline powder, no smell, easily soluble in water, insoluble in the organic solvent as alcohol.



Molecular Formula
C₁₀H₁₄N₅O₇P

Cas.No	61-19-8
Assay	98.0-102%
Description	White or almost white crystalline powder
Packaging	25kg per drum or packing as per customer's request
Uses	Can be used in nutritional supplements and pharmaceutical ingredients, also can be used in food supplements and nutrition products.

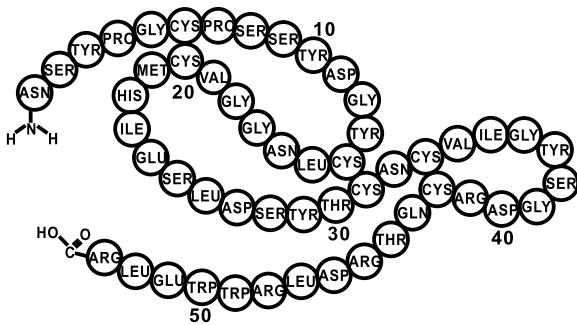
PRODUCTS

Epidermal Growth Factor(EGF)

Epidermal growth factor, Urogastrone (8Cl); Antheleone U; EGF, Gastrone, uro-; Gastrone, g-uro-
Kutrol; Uroantheleone; Uroenterone; Urogastron; Epidermal growth factor



Molecular Formula C₄₃H₅₃N₁₄O₁₄



Cas.No 62229-50-9

Assay 98.0-101%

Description White lyophilized (freeze-dried) powder

Packaging 25kg per drum or packing as per customer's request

Uses EGF renewal serum capsules suitable for all skin types with minimize conditions of aging, dehydrated, blemish and fine lines Increases and nourishes skin cells and also prevents and treats dehydration caused by dry weather and can enhance synthesizing of DNA, RNA and functional proteomics to nourish and improve hydration and elasticity of the skin.

Available with nutrition elements into cells, enhance corium cells synthesize functional molecules such as collagen fabrics, polysaccharides and glycoproteins to plump corium connective and firm fabrics.

EGF can enhance cells division and eliminate dead cells, minimize blemish and pigmentation to whiten the skin. Use EGF during and after a blemish eliminating treatment can prevent recurrence of pigmentation.

FACTORY



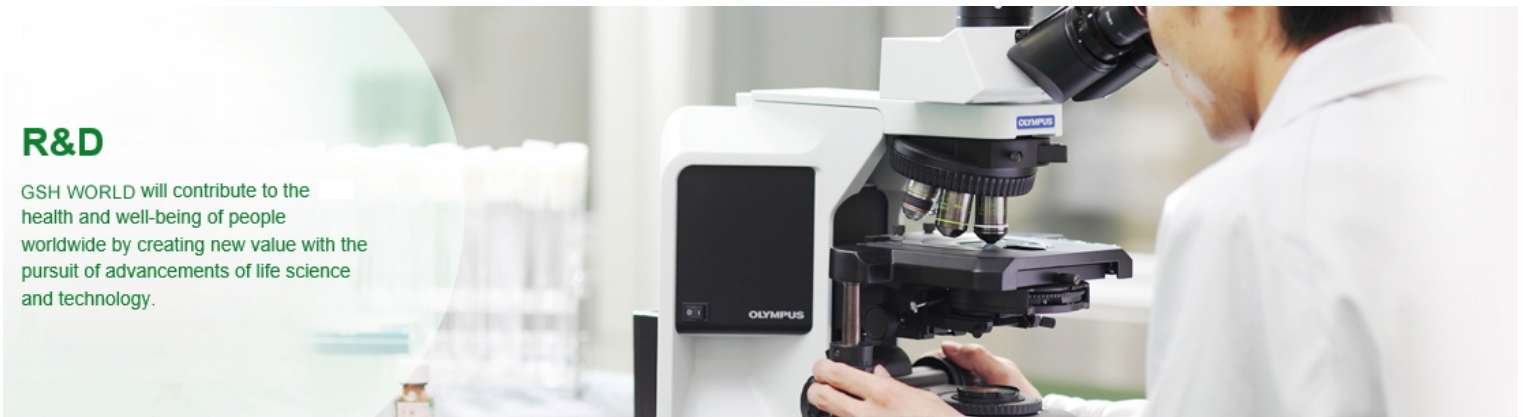
r & d team



GSH WORLD CONTINUES TO PURSUE ADVANCES IN THE LIFE SCIENCE AND TECHNOLOGY IN ITS QUEST TO BECOME A WORLD LEADER IN THE FIELD OF BIOTECHNOLOGY.

R&D

GSH WORLD will contribute to the health and well-being of people worldwide by creating new value with the pursuit of advancements of life science and technology.





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