Product Specification



Product Name: NEO HELIOPAN® HYDRO (ENSULIZOLE, USP)

Vigon Code: 502705

CAS Number: 27503-81-7 FEMA Number:

<u>Characteristic:</u> <u>Specification:</u>

Purity % 98.00 102.00

Ir Spectrum PASSES TEST

Loss On Drying (%) 0.000 2.000
Odor CHARACTERISTIC ODOR.

Pharmacopeia Usp PASSES TEST

Ultraviolet Absorbance 920.000 990.000

Uv/vis Spectrum PASSES TEST

Color/appearance WHITE TO PALE BEIGE POWDER.

Additional Product Information:

Flash Point: >200 °F Shelf Life: 36 Months

Storage Conditions: Stable when stored in its original package, tightly sealed in a

cool (46-90°F) and dry location out of direct heat and light.

Effective Date: March 8, 2012

Printed Date: May 25, 2018



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Version # 01 Print Date: 11-21-2015

1. IDENTIFICATION

Product Description: NEO HELIOPAN® HYDRO (ENSULIZOLE, USP)

CAS# 27503-81-7

Other means of identification

Vigon Item # 502705

Recommended use Cosmetic material for FDA regulated product use.

Recommended restrictions For Manufacturing Use Only

Company 24 Hour Emergency Response Information

INFOTRAC (ACCT# 78928); Vigon International, Inc.

1-800-535-5053 WITHIN THE U.S.A. 127 Airport Road 1-352-323-3500 OUTSIDE THE U.S.A. E. Stroudsburg, PA 18301

For information call: 570-476-6300

Web Site: www.vigon.com

2. HAZARD(S) IDENTIFICATION

Physical hazards Not classified.

Health hazards Acute toxicity, dermal Category 5

Environmental hazards Not classified.

Label elements

Hazard symbol None. Signal word Warning

Hazard statement

H313 May be harmful in contact with skin.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response

P312 Call a POISON CENTER/doctor if you feel unwell.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise

WARNING! May form combustible dust concentrations in air. Avoid breathing dust. classified (HNOC)

Supplemental information None.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

Chemical name	Common name and synonyms	CAS number	%
PHENYL BENZIMIDAZOLE	2-PHENYL-1H-BENZIMIDAZOLE-5-	27503-81-7	100
SULFONIC ACID	SULPHONIC ACID		
	1H-Benzimidazole-6-sulfonic acid, 2-phenyl-		



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4. FIRST-AID MEASURES

Inhalation If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing.

For breathing difficulties, oxygen may be necessary. Call a physician if symptoms develop or

persist

Skin contact

Take off immediately all contaminated clothing. Get medical attention if irritation develops and

persists. Wash skin thoroughly with soap and water for several minutes.

Eye contact Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and

persists. Promptly wash eyes with plenty of water while lifting the eye lids.

Ingestion Call a physician or poison control center immediately. If swallowed, rinse mouth with water (only if

the person is conscious). Do not induce vomiting. If vomiting occurs, the head should be kept low

so that stomach vomit doesn't enter the lungs.

Dusts may irritate the respiratory tract, skin and eyes.

Most important

symptoms/effects, acute and

delayed

Indication of immediate medical attention and special treatment

needed

Not available.

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to

protect themselves. Show this safety data sheet to the doctor in attendance.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Unsuitable extinguishing media

Specific hazards arising from

the chemical

Water spray, fog, CO2, dry chemical, or alcohol resistant foam.

Do not use a solid water stream as it may scatter and spread fire.

Fire may produce irritating, corrosive and/or toxic gases.

Explosion hazard: Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and

in the presence of an ignition source is a potential dust explosion hazard.

Special protective equipment and precautions for firefighters

Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection. Wear self-contained breathing apparatus with a full

facepiece operated in the positive pressure demand mode when fighting fires.

Fire fighting

equipment/instructions

In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Water runoff can cause environmental damage. Ventilate closed spaces before entering them. Keep run-off water out of sewers and water sources. Dike for water control.

Specific methodsUse water spray to cool unopened containers.

General fire hazards Static charges generated by emptying package in or near flammable vapor may cause flash fire.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Eliminate all sources of ignition. Avoid contact with skin or inhalation of spillage, dust or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them.



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Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Sweep up and place in a clearly labeled container for chemical waste. Wash contaminated area with water.

Use only non-sparking tools. Avoid the generation of dusts during clean-up.

Never return spills in original containers for re-use. This material and its container must be disposed of as hazardous waste. Collect and dispose of spillage as indicated in section 13 of the

SDS.

Environmental precautions Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid release to the

environment. Retain and dispose of contaminated wash water. Contact local authorities in case of

spillage to drain/aquatic environment.

7. HANDLING AND STORAGE

Precautions for safe handling

Do not handle or store near an open flame, heat or other sources of ignition. Take precautionary measures against static discharges when there is a risk of dust explosion. Avoid breathing dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Wash thoroughly after handling.

Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Assume that this material is capable of producing a dust explosion if ignited as a dust cloud.

Conditions for safe storage, including any incompatibilities

Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits

No exposure limits noted for ingredient(s).

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Use only appropriately classified electrical equipment and powered industrial trucks. Use explosion-proof ventilation equipment to stay below exposure limits. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Chemical resistant gloves.

Other Not available.

Respiratory protection Dust mask.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.



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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance Refer to Spec Sheet

Physical state Powder\Crystal.

Form Powder. Crystalline powder.

Color Refer to Spec Sheet

Odor Characteristic.
Odor threshold Not available.
pH Not available.

Melting point/freezing point > 680 °F (> 360 °C)

Initial boiling point and boiling

range

Not available.

Flash point > 200.0 °F (> 93.3 °C) Closed Cup

Evaporation rate Not available.
Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower

(%)

Not available.

(,,,

Flammability limit - upper

Not available.

(%)

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure < 0 kPa at 25 °C

Vapor density 9.5

Relative density Not available.

Solubility(ies)

Solubility (water) Insoluble

Partition coefficient Not available.

(n-octanol/water)

Auto-ignition temperature Not available.

Decomposition temperature Not available.

Viscosity Not available.

Other information

Molecular formula C13H10N2O3S

Molecular weight 274.3 g/mol

10. STABILITY AND REACTIVITY

Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability Material is stable under normal conditions.

Possibility of hazardous

reactions

No dangerous reaction known under conditions of normal use.



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Conditions to avoid Keep away from heat, sparks and open flame. Avoid temperatures exceeding the flash point.

Minimize dust generation and accumulation. Contact with incompatible materials.

Incompatible materials Strong oxidizing agents.

Hazardous decomposition

products

No hazardous decomposition products if stored and handled as indicated.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation Irritating to respiratory system.

Skin contact May be harmful in contact with skin. Dust or powder may irritate the skin.

Eye contact Dust may irritate the eyes.

Ingestion Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics

Dusts may irritate the respiratory tract, skin and eyes.

Information on toxicological effects

Acute toxicity May be harmful in contact with skin.

Product Species Test Results

PHENYL BENZIMIDAZOLE SULFONIC ACID (CAS 27503-81-7)

Acute

Dermal

LD50 Rabbit > 3000 mg/kg

Oral

LD50 Rat > 16000 mg/kg

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye Direct contact with eyes may cause temporary irritation.

irritation

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicityNo data available to indicate product or any components present at greater than 0.1% are

mutagenic or genotoxic.

Carcinogenicity

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicityThis product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity -

single exposure

Not classified.

^{*} Estimates for product may be based on additional component data not shown.



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Specific target organ toxicity -

repeated exposure

Not classified.

Aspiration hazard

Not an aspiration hazard.

12. ECOLOGICAL INFORMATION

EcotoxicityThe product is not classified as environmentally hazardous. However, this does not exclude the

possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product Species Test Results

PHENYL BENZIMIDAZOLE SULFONIC ACID (CAS 27503-81-7)

Acute

Other EC50 Activated sludge, industrial > 10000 mg/l

Aquatic

Acute

Crustacea EC50 Daphnia magna > 1000 mg/l
Fish LC0 Zebrafish (Brachydanio rerio) > 10000 mg/l

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation

potential, endocrine disruption, global warming potential) are expected from this component.

13. DISPOSAL CONSIDERATIONS

Disposal instructionsDo not discharge into drains, water courses or onto the ground. Do not allow this material to drain

into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or

used container. Dispose of contents/container in accordance with

local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code Not established.

Waste from residues / unused

products

Empty containers or liners may retain some product residues. This material and its container must

be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal.

Since emptied containers may retain product residue, follow label warnings even after container is

emptied.

14. TRANSPORT INFORMATION

ADN

Not regulated as dangerous goods.

ADR

Not regulated as dangerous goods.

RID

Not regulated as dangerous goods.

^{*} Estimates for product may be based on additional component data not shown.



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DOT

BULK

Not regulated as dangerous goods.

DOT

NON-BULK

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. REGULATORY INFORMATION

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication

Standard, 29 CFR 1910.1200.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No

Delayed Hazard - No Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous

No

chemical

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.



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Safe Drinking Water Act

Not regulated.

(SDWA)

US state regulations

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Not listed

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

^{*}A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

 Issue date
 11-21-2015

 Revision date
 05-12-2015

Version # 01

Further information Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the

Manufacturing, Processing, and Handling of Combustible Particulate Solids, for safe handling.

HMIS® ratings Health: 1

Flammability: 1 Physical hazard: 0

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).



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Disclaimer

Vigon cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. The above information relates only to this product and not to its use in combination with any other material or any particular process and is designed only as guidance for the safe handling, use, processing, storage, transportation, disposal, and should not be considered as a guarantee or quality specification. The above information is based on data provided by and collected from recognized sources such as distributors, manufacturers, and technical groups and is considered to be accurate to the best of Vigon's knowledge as of the date of this document. It is the responsibility of the user to review all safety information about this product and determine its safety and suitability in their own processes and operations. Appropriate warnings and safe handling procedures should be provided to all handlers and users, taking into account the intended use and the specific conditions and factors relating to such use in accordance with all applicable laws and regulations.





Product Name: NEO HELIOPAN® HYDRO (ENSULIZOLE, USP)

Vigon Code: 502705

* A check mark (indicates the Allergen/Sensitive Agent is present. If blank it means that there is no Allergen/Sensitive present.

ALLERGEN/SENSITIVE AGENTS	*
CORN & CORN PRODUCTS	
Includes modified starch, hydrolyzed protein,sweeteners,sugars, spice carriers	
EGG & EGG PRODUCTS	
liquid and powders	
FISH	
Includes any and all species of fresh and salt water fish	
GARLIC	
Dehydrated, powdered, granules, and flakes	
GLUTEN	
Wheat, rye, barley, oats, flour, etc.	
MILK & DAIRY PRODUCTS	
Includes whey, lactose, cheese, casein, spice carriers, milk, cream, etc.	_
MONOSODIUM GLUTAMATE	
PEANUTS, PEANUT OIL & PEANUT DERIVED ITEMS	
Peanut meal, flour & ground nuts, szechwan sauce, mandelona nuts, etc.	
SESAME SEEDS & SESAME OIL	
CRUSTACEANS	
Shrimp, lobster, rock lobster, crab, crayfish, and products made from them	
MOLLUSKS	
Clams, mussels, oysters, scallops, and products made from them	
SOY	
Includes soya powder, protein, oil, lecithin, tofu	
SULFITES Includes sulfur dioxide, sodium dithionite, chemicals that lists sulfite, etc.	
TRFF NUTS	
Includes almonds, beechnuts, bazil nuts, nutmeg, cashews, chestnuts, etc.	
WHEAT	1
Includes hydrolyzed wheat protein, flour, gluten flour, starches	
MUSTARD & MUSTARD OIL	
LUPIN	+
CELERY	

Vigon International, Inc. follows Good Manufacturing Practices and has implemented HACCP systems. Our personnel are trained on the proper handling of allergenic materials. Sincerely,

Amanda Moyer

Amanda Moyer

Product Documentation Coordinator

Date of Issue: May 25, 2018

GMO Status Statement



Product Name: NEO HELIOPAN® HYDRO (ENSULIZOLE, USP)

Vigon Code: 502705

Vigon International, Inc. declares that the product listed above is not derived from or produced using genetically modified organisms or their derivatives.

Sincerely,

Amanda Moyer

Product Documentation Coordinator

Date of Issue: May 25, 2018

Amanca Mayer

Irradiation and Sewage Sludge Statement



Product Name: NEO HELIOPAN® HYDRO (ENSULIZOLE, USP)

Vigon Code: 502705

Vigon International, Inc. declares that the product listed above has **not** been:

- a) Exposed to Ionizing Radiation
- b) Derived from Sewage Sludge
- c) Treated with Ethyl Oxide

Vigon International, Inc. may terminate this statement at any time upon written notice in which this statement shall be null and void as to any material supplied after termination of the statement.

Sincerely,

Amanda Moyer

Product Documentation Coordinator

Date of Issue: May 25, 2018

Amanca Moyer

Continuing Product Guarantee



Product Name: NEO HELIOPAN® HYDRO (ENSULIZOLE, USP)

Vigon Code: 502705

In accordance with the regulations promulgated under the Federal Food, Drug, and Cosmetic Act, Vigon International, Inc. hereby provides continuing guarantee for the item listed above.

The article(s) comprising each shipment or other delivery hereafter made by Vigon International, Inc. is hereby guaranteed, as of the date of shipment or delivery, to be, on such date, not adulterated or misbranded within the meaning of the Federal Food, Drug, and Cosmetic Act, and not an article which may not, under the provisions of section 404, 505, or 512 of the act, be introduced into interstate commerce.

The guarantee herein given shall be a continuing guarantee and shall remain in full force and effect until revoked in writing by the undersigned. This guarantee shall not limit or preclude the operation and effect of any and all provisions of any agreement(s) under which the articles covered by this guarantee are sold, and the provisions of such agreement(s) shall govern in the event of any conflict or inconsistency herewith. Supplier's liability for breach of this guarantee shall in no event exceed the value of such of the articles of the supplier shipped to or on the order of Purchaser hereunder as may fail to comply with this guarantee.

This guarantee shall be void and of no effect in any instance where the particular use by Purchaser of any article to which this guarantee would otherwise apply is a use which is not in accordance with the requirements of the Federal Food, Drug and Cosmetic Act. Any and all prior guarantees and/or indemnity agreements heretofore given by supplier, are hereby revoked.

Sincerely,

Amanda Moyer

Product Documentation Coordinator

Date of Issue: May 25, 2018

Amanca Moyer

Dietary Preferences & Restrictions



Product Name: NEO HELIOPAN® HYDRO (ENSULIZOLE, USP)

Vigon Code: 502705

Vigon International, Inc. certifies that the product listed above is suitable for consumption by:

Vegans Do not eat meat, poultry, fish/seafood,eggs,dairy products, honey	
Lacto-Vegetarians Do not eat meat, poultry, fish/seafood, eggs, but do eat dairy products	
Ovo-Vegetarians Do not eat meat, poultry, fish/seafood, dairy products, but do eat eggs	
Vegetarians Do not eat meat, poultry, fish/seafood, but do eat dairy products and eggs	

Sincerely,

Amanda Moyer

Product Documentation Coordinator

Date of Issue: May 25, 2018

Amancla Moyer

Animal Testing Statement



Product Name: NEO HELIOPAN® HYDRO (ENSULIZOLE, USP)

Vigon Code: 502705

Vigon International, Inc. is not in the practice of performing or commissioning animal testing on its finished products and actively evaluates the ingredients of its products through non-animal testing methods and through computational (predictive) toxicology programs. However, some ingredients used in our products have been subjected to animal testing by the academic community, government agencies, or within the chemical industry.

Sincerely,

Amanda Moyer

Product Documentation Coordinator

Date of Issue: May 25, 2018

Amanca Mayer

Proposition 65 Statement



Product Name: NEO HELIOPAN® HYDRO (ENSULIZOLE, USP)

Vigon Code: 502705

Vigon International, Inc. certifies that the product above is **not listed** on the California's Safe Drinking Water and Toxic Enforcement Act of 1986, also known as Proposition 65.

Sincerely,

Amanda Moyer

Product Documentation Coordinator

Date of Issue: May 25, 2018

Amanca Moyer