KAMPOYAKI NATURAL
PRODUCTS BIO-CHEMISTRY

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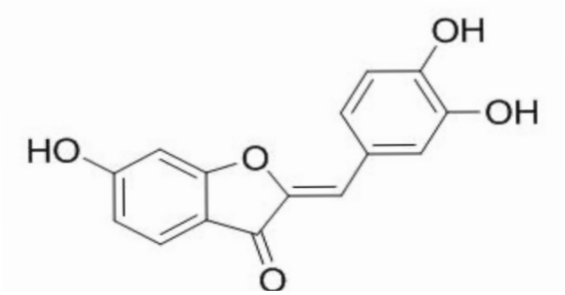
ISO 9001:2015 Certification
ISO 16128-1 ISO 16128-2-2017 EPA www.epa.gov/greenchemistry

SULFURETIN

Datasheet
Kampoyaki Novo-Drug Screening Libraries 4th Edition (Revised in July, 2016)

PRODUCT INFORMATION



Name: Sulfuretin
Catalog No.: KRN97844
Cas No.: 120-05-8
Purity: >=95%
M.F: $C_{15}H_{10}O_5$
M.W: 270.24
Physical Description: Yellow powder
Synonyms: (2Z)-2-[(3,4-dihydroxyphenyl)methylidene]-6-hydroxy-1-benzofuran-3-one; 7,3',4'-Trihydroxyaurone;3',4',6-Trihydroxyaurone.

POTENTIAL USES

1. Reference standards; **2.** Pharmacological research; **3.** Food and cosmetic research; **4.** Synthetic precursor compounds; **5.** Active Pharmaceutical Intermediates (API) & Fine Chemicals; **6.** Ingredient in supplements, beverages; **7.** Agricultural research; **8.** Botanical Bio- Allelopathy, **9.** Natural Botanical Molecules as Botanical Bio-Herbicides **10.** As Botanical Bio- Anti-Blight Fungicides

SOURCE

The herbs of Rhus verniciflua.

BIOLOGICAL ACTIVITY OR INHIBITORS

Rhus verniciflua extract, which contains sulfuretin as an active component, may prevent
[1]
[2]
Sulfuretin can reduce airway inflammatory cell recruitment and peribronchiolar
inflammation and suppress the production of various cytokines in bronchoalveolar fluid, it
also can suppress mucin production and prevent the development of airway
hyper-responsiveness; suggests that sulfuretin may have therapeutic potential for the
treatment of allergic airway inflammation, mediated by the inhibition of the NF-κB
[3]
Sulfuretin has protective effect against tert-butyl hydroperoxide (t-BHP)-induced oxidative
damage in human liver-derived HepG2 cells, the effect is attributable to its ability to
scavenge ROS and up-regulate the activity of HO-1 through the Nrf2/ARE and JNK/ERK
rheumatoid syndromes by inhibiting reactive oxygen species.
Sulfuretin has anti-inflammatory effect in lipopolysaccharide (LPS)-treated RAW 264.7 macrophages, the effect is associated with the suppression of NF-kappaB transcriptional
activity via the inhibitory regulation of IKKbeta phosphorylation.
signaling pathway.
[4]
Sulfuretin-induced miR-30C selectively downregulates cyclin D1 and D2 and triggers cell
[5]
signaling pathways.
death in human cancer cell lines.
Sulfuretin is a potent anti-oxidant, it protects SH-SY5Y cells against 6-hydroxydopamine (6-OHDA)-induced neuronal cell death, possibly through inhibition of phosphorylation of MAPK, PI3K/Akt, and GSK-3, which leads to mitochondrial protection, NF-κB modulations and subsequent suppression of apoptosis via ROS-dependent pathways, thus, sulfuretin may have a potential role for neuroprotection and may be used as a therapeutic agent for
[6]
Sulfuretin has antinociceptive and antiinflammatory effects, the inhibitory effect of
[7]
Sulfuretin can protect against cytokine-induced beta-cell damage and prevent
streptozotocin-induced diabetes, the meachnism is mediated by suppression of
[8]
Parkinson’s disease (PD).
sulfuretin on COX-2 may be one of the antinociceptive/antiinflammatory mechanism.
NF-kappaB activation.
Rhus verniciflua stokes heartwood may have cardiovascular protective activity by
[9]
might be have therapeutic benefits in bone disease and regeneration.
Sulfuretin can inhibit UVB-induced MMP-1 and -3 expressions in a dose-dependent manner, UVB-induced MAPK/NF-κB/p50 activation and MMP expression could be completely blocked by pretreatment of sulfuretin, thus, sulfuretin can prevent
[11]
inhibiting platelet aggregation, the active constituents are fisetin, butein, and sulfuretin. Sulfuretin acts through the activation of BMP, mTOR, Wnt/β-catenin, and Runx2 signaling to promote in vitro osteoblast

SOLVENT

Chloroform, Dichloromethane, Ethyl Acetate, DMSO, Acetone, etc.

HPLC METHOD (12)

Mobile phase: 2% Acetic acid in water- Methanol ,gradient elution ;

Flow rate: 1.0 ml/min;

Column temperature: 30 °C;

The wave length of determination: 280 nm.

STORAGE

2-8°C, Protected from air and light, refrigerate or freeze.

REFERENCES

[1] Choi J, Yoon B J, Han Y N, et al. Planta Med., 2003, 69(10):899-904.
[2] Jisun S, Youngmi P, Junghye C, et al. Int. Immunopharmacol., 2010, 10(8):943-50. [3] Song M Y, Jeong G S, Lee H S, et al. Biochem. Bioph. Res. Co., 2010, 400(1):83-8. [4] Lee D S, Kim K S, Ko W, et al. Int. J. Mol. Sci., 2014, 15(5):8863-77.
[5] Poudel S, Song J, Jin E J, et al. Biochem. Bioph. Res. Co., 2013, 431(3):572-8.
[6] Kwon S H, Ma S X, Lee S Y, et al. Neurochem. Int., 2014, 74(13):53-64.
[7] Choi J, Yoon B J, Han Y N, et al. Nat. Prod. Sci., 2003, 9(2):97-101.
[8] Song M Y, Jeong G S, Kwon K B, et al. Exp. Mol. Med., 2010, 42(9):628-38. [9] Lee J H, Kim M, Chang K H, et al. J. Med. Food, 2015, 18(1):21-30.
[10] Auh Q S, Park K R, Yun H M, et al. Oncotarget. 2016,7(48):78320-30.
[11] Hong S S, Kim S H, Lee Y R. J. Physiol.Pathol..2011,25(3):533-9.
[12] Min Y K, Chung I M, Choi D C. Nat.Prod. Sci., 2009, 15(4):208-12.

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CERTIFICATE OF ANALYSIS

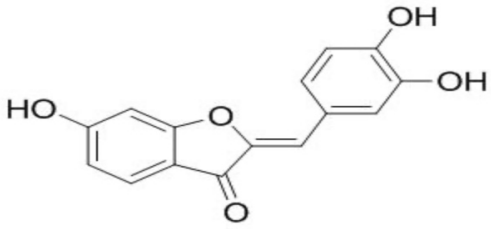
Name: Sulfuretin

Catalog No.: KRN97844

Cas No.: 120-05-8

Purity: >= 98%

M.F: $C_{15}H_{10}O_5$



Physical Description: Yellow powder

Solvent: Chloroform, Dichloromethane, Ethyl Acetate, DMSO, Acetone, etc.

Weight 5mg

Lot No. KRS201802

Storage Protected from air and light, refrigerate or freeze (2-8 °C)

Intended Use For laboratory use only

Shelf Life 2 years

CHARACTERIZATION DATA SUMMARY

Analytical Test	Results
Identification by , 1H-NMR ,	Consistent with the above structure
Purity tested	>= 98.9%

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GHS SAFETY DATA SHEET

Version 4.2
Revision Date 01/01/2018
Print Date 01/08/2019

1. PRODUCT AND COMPANY IDENTIFICATION

GHS Product Name: Sulfuretin

Product code: KRN97844

Company: KAMPOYAKI HERS PTE LTD

Address: 16 New Industrial Road, #05-05 Hudson Techno Centre Singapore 536204

Tel: +65-63833202

Fax: +65-63833632

Website: www.kampoyaki-research.com

E-mail: thiru-sam@kampoyaki-research.com | kampoyak@singnet.com.sg

2. HAZARDS IDENTIFICATION

2.1 GHS classification

Physical Hazards: Not classified

Health Hazards: Not classified

Environmental Hazards: Not classified

2.2 GHS label elements, including precautionary statements

Pictograms or hazard symbols: None

Signal word: No signal word

Hazard statements: None

Precautionary statements: None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name: Sulfuretin

CAS#: 120-05-8

Purity: >=98%

Formula: $C_{15}H_{10}O_5$

Molecular Weight: 270.24

Hazard Symbols: ---

Risk Phrases: ---

4. FIRST AID MEASURES

4.1 Description of first aid measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Consult a doctor.

Skin: Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Consult a doctor.

Ingestion: Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water. Consult a doctor.

Inhalation: Remove from exposure and move to fresh air immediately. Consult a doctor.

4.2 Indication of immediate medical attention and special treatment needed

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

5. FIRE FIGHTING MEASURES

5.1 Suitable extinguishing

Media: Dry chemical, foam, water spray, carbon dioxide.

Precautions for firefighters: Fire-extinguishing work is done from the windward and the suitable fire-extinguishing method according to the surrounding situation is used. Uninvolved persons should evacuate to a safe place. In case of fire in the surroundings: Remove movable containers if safe to do so.

5.2 Special protective

Equipment for firefighters: When extinguishing fire, be sure to wear personal protective equipment.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing vapors, mist or gas.

6.2 Environmental precautions

Do not let product enter drains.

6.3 General Information

Use proper personal protective equipment as indicated in Section 8.

6.4 Spills/Leaks

Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up, then place into a suitable container for disposal. Decontaminate spill site with 10% caustic solution and ventilate area until after disposal is complete

7. HANDLING AND STORAGE

7.1 Precautions for safe handling:

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation. Keep away from sources of ignition. Avoid prolonged or repeated exposure.

7.2 Storage

Store in a well closed container. Protected from air and light, refrigerate or freeze.(2-8°C)

7.3 Specific end uses

Use in a laboratory fume hood where possible. Refer to employer is COSHH risk assessment.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Engineering controls

Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits. Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels.

Control parameters: Not set up

8.2 Personal protective equipment

Respiratory protection: Dust respirator. Follow local and national regulations.

Hand protection: Protective gloves.

Eye protection: Wear safety glasses and chemical goggles if splashing is possible.

Skin and body protection: Wear appropriate protective gloves and clothing to prevent skin exposure.

9. PHYSICAL AND CHEMICAL PROPERTIES

a) Appearance Yellow powder
b) Odour no data available
c) Odour Threshold no data available
d) pH no data available
e) Melting point/freezing point no data available
f) Initial boiling point and boiling range no data available
g) Flash point no data available
h) Evaporation rate no data available
i) Flammability (solid, gas) no data available
j) Flammability or explosive limits no data available
k) Vapour pressure no data available
l) Vapour density
m) Relative density no data available
n) Water solubility no data available
o) Partition coefficient: no data available
p) Autoignition temperature no data available
q) Decomposition temperature no data available
r) Viscosity no data available
s) Explosive properties no data available
t) Oxidizing properties no data available

10 - STABILITY AND REACTIVITY

10.1 Reactivity

Stable under recommended transport or storage conditions.

10.2 Chemical Stability

Stable under normal temperatures and pressures.

10.3 Conditions to Avoid

Incompatible materials, strong oxidants, heat.

10.4 Incompatibilities with Other Materials

Strong oxidising/reducing agents, strong acids/alkalis.

10.5 Hazardous Decomposition Products

Nitrogen oxides, carbon monoxide, irritating and toxic fumes and gases, carbon dioxide, nitrogen.

10.6 Hazardous Polymerization

Has not been reported.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity:	No data available
Skin corrosion/ irritation:	No data available
Serious eye damage/irritation:	No data available
Germ cell mutagenicity:	No data available
Carcinogenicity:	---
IARC:	No data available
NTP:	No data available
Reproductive toxicity:	No data available

12. ECOLOGICAL INFORMATION

Toxicity:	No data available
Persistence and degradability:	No data available
Bioaccumulative potential:	No data available
Mobility in soil:	No data available

Results of PBT and vPvB assessment:	No data available
Other adverse effects:	May be harmful to the aquatic environment.

13. DISPOSAL CONSIDERATIONS

Dispose of in a manner consistent with federal, state, and local regulations.

14. TRANSPORT INFORMATION

14.1 Hazards Class:

Does not meet the criteria for classification as hazardous for transport

14.2 UN proper shipping name

ADR/RID:	Not dangerous goods
IMDG:	Not dangerous goods
IATA:	Not dangerous goods

14.3 Transport hazard class(es)

Does not meet the criteria for classification as hazardous for transport.

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

No data available

15.2 Chemical Safety Assessment

No data available

16. ADDITIONAL INFORMATION

This GHS SDS above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.

End of GHS safety data sheet

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