SAFETY DATA SHEET

according to Regulation (EC) No.-

Version 1.0
Revision Date 29.11.2021
Print Date 29.11.2021
www.markherb.com

Section 1. Product and Company Information

GHS Product Name:	Curcumin
Product Code:	PHE-2-1000 | PHE-3-10 | PHE-3-50
CAS:	[458-37-7]
Molecular Formula:	$C_{21}H_{20}O_6$
	(E,E)-1,7-bis(4-Hydroxy-3-methoxyphenyl)-1,6-heptadiene-3,5-dione; Diferuloylmethane; Diferulylmethane; Natural Yellow 3; Kurkumin (INA)
Company:	MarkHerb
Address:	Gedung Riset dan Inovasi (ex. PAU Lt. 8), Institut Teknologi Bandung, Jl Ganesha 10, Bandung 40132
Tel.:	+62 877-4556-0063
Fax:	-
Website:	www.markherb.com
E-mail:	info@markherb.com

Section 2. Hazards Identification

2.1 GHS classification

PHYSICAL HAZARDS Not classified
HEALTH HAZARDS Not classified
NVIRONMENTAL HAZARDS Not classified

2.2 GHS label elements, including precautionary statements

Pictograms or hazard symbols None
Signal word None
Hazard statements None
Precautionary statements None

Section 3. Information on Basic Physical and Chemical Properties

Physical States:	[ ] Gas [ ] Liquid [X] Solid
Melting Point:	183°C
Boiling Point:	593.2±50.0°C at 760 mmHg
Flash Pt:	209.7±23.6°C
Evaporation Rate:	No data
Flammability (solid, gas):	No data available.
Explosive Limits:	**LEL:** No data. **UEL:** No data

Vapor Pressure (vs. Air or mm Hg):	0.0±1.8 mmHg at 25°C
Vapor Density (vs. Air = 1):	13
Specific Gravity (Water = 1):	No data.
Solubility in Water:	Slightly soluble (hot)
Solubility Notes:	~3 mg/ml in 0.1 M NaOH; ~1 mg/ml in EtOH, DMSO & DMF; ~20 mg/ml in acetone; 10 mg/ml in ethanol; Soluble in chloroform;
Autoignition Pt:	No data.
Percent Volatile:	No data.
Partition coefficient:	No data.
pH:	Yellow (7.8) to red-brown (9.2)

Section 4. First aid measures

Description of first aid measures

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration.

In case of skin contact

Wash off with soap and plenty of water.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see **section 2.2**).

Indication of any immediate medical attention and special treatment needed

No data available

Section 5. Fire Fighting Measures

Suitable extinguishing

Media: Dry chemical, alcohol-resistant foam, water spray, carbon dioxide.

Use water spray to cool fire-exposed containers. A solid water stream may be inefficient.

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.

Special protective:

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

Section 6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental precautions

Do not let product enter drains.

General Information:
Use proper personal protective equipment as indicated in **Section 8**.
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.

Section 7. Handling and Storage

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.
Storage:
Store in a well closed container. Protected from air and light, refrigerate or freeze (2-8°C)
Recommended temperature storage: -20^{o}C.
Combustible solid.
Specific end uses
Use in a laboratory fume hood where possible. Refer to employer is COSHH risk assessment.

Section 8. Exposure Controls / Personal Protection

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
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.

Section 9. Stability and Reactivity

Reactivity
Stable under recommended transport or storage conditions.
Chemical Stability
Stable under normal temperatures and pressures.
Conditions to Avoid
Incompatible materials, strong oxidants, heat.
Incompatibilities with Other Materials
Strong oxidising/reducing agents, strong acids/alkalis.
Hazardous Decomposition Products
Nitrogen oxides, carbon monoxide, irritating and toxic fumes and gases, carbon dioxide, nitrogen.
Hazardous Polymerization
Has not been reported.

Section 10. Toxicological Information

Acute Toxicity:
LD50 Oral - Rat – 12200 mg/kg

Skin corrosion/irritation:	No data
Serious eye damage/irritation:	No data
Germ cell mutagenicity:	No data
Carcinogenicity:	IARC = No data NTP = No data
Reproductive toxicity:	No data

Section 11. Ecological Information

Toxicity:	No data
Persistence and degradability:	No data
Bioaccumulative potential:	No data
Mobility in soil:	No data
Results of PBT & vPvB assessment:	No data
Other adverse effects:	May be harmful to the aquatic environment.

Section 12. Disposal Considerations

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

Section 13. Transport Information

Hazards Class
Does not meet the criteria for classification as hazardous for transport.
UN proper shipping name ADR/RID
Not dangerous goods
IMDG
Not dangerous goods
IATA
Not dangerous goods
Transport hazard class(es)
Does not meet the criteria for classification as hazardous for transport.

Section 14. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture
no data
Chemical Safety Assessment

no data

Section 15. Additional Information

This MSDS 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 safety data sheet----