

SAFETY DATA SHEET

[IN ACCORDANCE WITH THE CRITERIA OF REGULATION NO 1907/2006 (REACH) AND 2015/830]

Section 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifiers**

Muffin flavor concentrate

1.2 Relevant identified uses of the substance or mixture and uses advised against**Identified uses:** liquid filling for e-liquid**Uses advised against:** not determined**1.3 Details of the supplier of the safety data sheet****Company:** Shenzhen Hangsen Star Technology Co., Ltd**Address:** Hangsen Plaza, Ganli 5th Road, Ganli Industrial Park, Buji Street, Longgang District, Shenzhen, Guangdong, China**Telephone:** +86 755-33905593**Fax:** +86 755-33905595**E-mail address:** hank@hkhangsen.com**1.4 Emergency telephone number****Telephone:** 112 (Emergency number),
999 (Ambulance),
998 (Fire)**Section 2: Hazards identification****2.1 Classification of the substance or mixture:****Classification according to Regulation 1272/2008/EC**

This product does not meet the criteria for classification in any hazard class according to Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. However a safety data sheet is being supplied for it upon request as it contains a substance for which there is a Union workplace exposure limit.

2.2 Label elements**Hazard pictograms and signal words**

Not available

Hazard phrases

Not available

Safety phrases

Not available

Names of components on the label

Contains: -

2.3 Other hazards:

Product does not contain ingredients, which meet criteria for PBT or vPvB in accordance with Annex XIII of REACH Regulation.

Section 3: Composition/information on ingredients**3.1 Substance:** Not applicable. Please refer to 3.2 for more information.**3.2 Mixtures:**

Components:				
Name	CAS/EC number	Index number	Classification acc. to 1272/2008/EC	Weight % content
1,2-Propylene glycol	CAS: 57-55-6 EINECS: 200-338-0	Not available	Substance is not classified as hazardous.	86.16
Vanillin	CAS: 121-33-5 EINECS: 204-465-2	Not available	Eye Irrit.2 (H319)	5.46
Ethyl maltol	CAS: 4940-11-8 EINECS: 225-582-5	Not available	Acute Tox.4 (H302)	2.00
Ethyl vanillin	CAS: 121-32-4 EINECS: 204-464-7	Not available	Substance is not classified as hazardous.	1.66

Peach aldehyde	CAS: 104-67-6 EINECS: 203-225-4	Not available	Substance is not classified as hazardous.	1.42
Sulfurol	CAS: 137-00-8 EINECS: 205-272-6	Not available	Substance is not classified as hazardous.	1.10
δ-Dodecanolactone	CAS: 713-95-1 EINECS: 211-932-4	Not available	Substance is not classified as hazardous.	0.94
5-Decanolide	CAS: 705-86-2 EINECS: 211-889-1	Not available	Substance is not classified as hazardous.	0.26
2-Acetylpyrazine	CAS: 22047-25-2 EINECS: 244-753-5	Not available	Substance is not classified as hazardous.	0.25
Decanoic acid	CAS: 334-48-5 EINECS: 206-376-4	607-709-00-X	Skin Irrit.2 (H315) Eye Irrit.2 (H319) Aquatic Chronic 3 (H412)	0.21
Benzaldehyde	CAS: 100-52-7 EINECS: 202-860-4	605-012-00-5	Acute Tox.4* (H302)	0.15
Ethyl acetoacetate	CAS: 141-97-9 EINECS: 205-516-1	Not available	Substance is not classified as hazardous.	0.09
γ-Heptalactone	CAS: 105-21-5 EINECS: 203-279-9	Not available	Substance is not classified as hazardous.	0.08
δ-Undecalactone	CAS: 710-04-3 EINECS: 211-915-1	Not available	Substance is not classified as hazardous.	0.08
Cyclotene	CAS: 80-71-7 EINECS: 212-154-8	Not available	Substance is not classified as hazardous.	0.07
Octanoic acid	CAS: 124-07-2 EINECS: 204-677-5	607-708-00-4	Skin Corr.1C (H314) Aquatic Chronic 3 (H412)	0.04
2,3,5-Trimethylpyrazine	CAS: 14667-55-1 EINECS: 238-712-0	Not available	Flam. Liq.3 (H226) Acute Tox.4 (H302)	0.03

Additional information:

Substances for which there are Union workplace exposure limits are listed in SECTION 8.

For full text of H-statements: see SECTION 16.

Section 4: First aid measures

4.1 Description of first aid measures

Skin contact: take off contaminated clothing. Wash the contaminated skin with water and soap. Immediately consult a doctor.

Eye contact: remove contact lenses. Wash the contaminated eye with plenty of water for at least 15 minutes. Avoid powerful water stream. Consult a doctor if disturbing symptoms occur.

Ingestion: do not induce vomiting. Rinse mouth with water. Never give anything to drink to an unconscious person. Consult a doctor. Show the container or label.

Inhalation: Remove to fresh air. Keep warm and calm. Consult a doctor, if disturbing symptoms appear.

4.2 Most important symptoms and effects, both acute and delayed:

None reasonably foreseeable

4.3 Indication of any immediate medical attention and special treatment needed:

Physician makes a decision regarding further medical treatment after thoroughly examination of the injured. Symptomatic treatment.

Section 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: Foam, dry extinguishing agents, water spray.

Unsuitable extinguishing media: Water jet - risk of the propagation of the flame.

5.2 Special hazards arising from the substance or mixture:

During the fire, the product may produce toxic fumes of carbon monoxide and dioxide, nitric oxides and other unidentified products of thermal decomposition. Do not inhale combustion products.

5.3 Advice for firefighters:

Personal protection typical in case of fire. Do not stay in the fire zone without self-contained breathing apparatus and protective clothing resistant to chemicals.

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Limit the access for the outsiders into the breakdown area, until suitable cleaning operations are completed. In case of large spills, isolate the exposed area. Avoid contact with skin and eyes. Use personal protective measures.

6.2 Environmental precautions:

In case of release of large amounts of the product, it is necessary to take appropriate steps to prevent it from spreading into the environment. Material may be hazardous if released in large quantities to the environment. Notify relevant emergency services.

6.3 Methods and material for containment and cleaning up

Damaged container put in emergency container. Absorb leakage with incombustible liquid-binding material (e.g. sand, earth, universal binders, silica, vermiculite) and collect mechanically into properly labeled containers for disposal. Clean the contaminated place.

6.4 Reference to other sections: Section 13 and section 8.

Section 7: Handling and storage

7.1 Precautions for safe handling:

Handle in accordance with good occupational hygiene and safety practices. Avoid skin and eyes contamination. Before break and after work wash hands carefully. Use personal protective measures. Ensure adequate ventilation. Do not let the product to get into mouth.

7.2 Conditions for safe storage, including any incompatibilities:

Keep only in original, tightly closed containers in a cool and well-ventilated area. Keep away from food, beverages or feed for animals. Avoid direct exposure to sunlight. Keep away from strong acids and oxidizing agents. After opening, seal the container and store in an upright position to prevent leakage.

7.3 Specific end use(s):

Liquid filling for e-liquid.

Section 8: Exposure controls/personal protection

8.1 Control parameters

No data available

Recommended control procedures

Procedures Concerning the control over the dangerous components concentrations in the air and control over the air quality in the workplace in Accordance with the European Standards.

8.2 Exposure controls:

Use the product in accordance with good occupational hygiene and safety practices. Ensure exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure eye stations and safety showers.

Hand and body protection:

In case of short term contact use protective gloves made of nitrile rubber (minimal thickness: 0.2 mm; breakthrough time > 30 minutes). In case of long term contact use protective gloves made of butyl rubber (minimal thickness: 0.3 mm, breakthrough time > 480 minutes).

The material that the gloves are made of must be impenetrable and resistant to the product's effects. The selection of material must be performed with consideration of breakthrough time, penetration speed and degradation.

Eye protection:

Wear tightly fitting safety glasses if there is a risk of eye contamination.

Respiratory protection:

In case of normal use, in accordance with the intended use, it is not necessary.

Applied personal protective equipment must comply with the requirements of the Directive 89/686/EC. The employer is obliged to provide protective equipment relevant to performed activities and in accordance with all quality requirements, including its maintenance and cleaning.

8.3 Environmental exposure controls:

Do not allow to enter large amounts of product to reach ground water, sewage, waste water or soil.

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance: Golden yellow oily liquid at room temperature

Odour: Other

Odour threshold: Not available

pH: 4.41 at 10g/L at 25°C

Melting point/freezing range: Not available

Initial boiling point and boiling range: 160-170 °C

Flash point: Not available

Evaporation rate: Not available

Flammability (solid, gaseous): This product is liquid, not applicable.

Upper/lower flammability or explosive limits: Not available

Vapour pressure: Not available

Vapour density: Not available

Relative density: 1.049 (25°C)

Solubility(ies): Not available

Partition coefficient: n-octanol/water: Not available

Auto-ignition temperature: Product is not self-igniting.

Decomposition temperature: Not available

Viscosity: 50 mPa·s (25°C)

Explosive properties: Product does not present an explosion hazard.

Oxidising properties: Product does not present oxidizing properties.

9.2 Other information: Not available

Section10: Stability and reactivity

10.1 Reactivity: Product is feebly reactive. Product does not undergo a dangerous polymerization. See also 10.4-10.5

10.2 Chemical stability: The product is stable under normal storage and using condition.

10.3 Possibility of hazardous reactions: Dangerous reactions are not known.

10.4 Conditions to avoid: Avoid direct exposure to sunlight.

10.5 Incompatible materials: Strong oxidizing agents, acids.

10.6 Hazardous decomposition products: Not available

Section11: Toxicological information

11.1 Information on toxicological effects

Toxicity of components

LD/LC50 values relevant for classification:		
CAS: 4940-11-8 Ethyl maltol		
Oral	LD50	1150 mg/kg bw

Toxicity of the mixture

The acute toxicity estimate (ATEmix) for the classification of a substance in a mixture was determined using the appropriate value from relevant literature.

Acute toxicity

ATEmix (oral) = 57500 mg/kg bw (Not classified)

Skin corrosion/irritation:

Based on available data, the classification criteria are not met.

Serious eye damage/irritation:

Based on available data, the classification criteria are not met.

Respiratory or skin sensitization:

This product does not contain any substances that produce respiratory or skin sensitization. See section 3.

Germ cell mutagenicity:

This product does not contain any substances that produce germ cell mutagenicity. See section 3.

Carcinogenicity:

This product does not contain any substances that produce carcinogenicity. See section 3.

Reproductive toxicity:

This product does not contain any substances that produce reproductive toxicity. See section 3.

Summary of evaluation of the CMR properties:

Based on available data, the classification criteria are not met.

STOT-single exposure:

This product does not contain any substances that produce STOT-SE. See section 3.

STOT-repeated exposure:

This product does not contain any substances that produce STOT-RE. See section 3.

Aspiration hazard:

This product does not contain any substances that produce aspiration hazard. See section 3.

Section12:Ecological information

12.1 Toxicity:

Parameters of environmental toxicity:	
CAS: 334-48-5 Decanoic acid	
Classification:	Aquatic Chronic 3 (H412)
CAS: 124-07-2 Octanoic acid	
Classification:	Aquatic Chronic 3 (H412)

According to Regulation (EC) No 1272/2008, this product does not meet the criteria of classification of environmental toxicity.

12.2 Persistence and degradability:

Data for the mixture are not available.

1,2-Propylene glycol	
OECD Method 301F Biodegradation in soil	81% biodegradation High concentrations of propylene glycol released into a soil environment can be expected to biodegrade.
Phototransformation in water	DT50 = 1.3 year

12.3 Bioaccumulative potential:

Data for the mixture are not available.

1,2-Propylene glycol	
BCF	0.09

12.4 Mobility in soil:

Data for the mixture are not available.

1,2-Propylene glycol	
Koc	2.9 (calculated from $\log Pow = -1.07$ using the equation from the TGD (non-hydrophobics))
Henry's Law constant	0.06 atm m ³ /mol (12 °C)

12.5 Results of PBT and vPvB assessment:

Product does not contain ingredients, which meet criteria for PBT or vPvB.

12.6 Other adverse effects:

The mixture is not classified as hazardous to the ozone layer.

Section13:Disposal considerations
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13.1 Waste treatment methods

Disposal method for the product: disposal in accordance with the local legislation. Do not empty into drains. Waste code should be given in the place of waste formation. The classification of this waste meets criteria for dangerous waste.

Disposal methods for used packing: reuse/recycling/liquidation of empty containers dispose in accordance with the local legislation. The classification of this waste meets criteria for dangerous waste.

Legal Basis: Directive 2008/98/EC, 94/62/EC.

Section14:Transport information
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14.1. UN number:

Not available. Product is not classified as hazardous during transport.

14.2. UN proper shipping name:

Not applicable.

14.3. Transport hazard class(es):

Not applicable.

14.4. Packing group:

Not applicable.

14.5. Environmental hazards:

Not applicable.

14.6. Special precautions for user:

Move carefully to prevent leakage during carriage. Keep necessary protective articles at hand in case of accident.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code:

Not applicable.

Section15: Regulatory information
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15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (Text with EEA relevance).

Commission Regulation (EU) No 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) (Text with EEA relevance)

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives.

European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste.

ADR European Agreement concerning the International Carriage of Dangerous Goods.

Convention concerning International Carriage by Rail (COTIF): Appendix C – Regulations concerning the International Carriage of Dangerous Goods by Rail (RID) with effect from 1 January 2011.

15.2 Chemical safety assessment:

A Chemical Safety Assessment is not required for mixtures in accordance with REACH Regulation.

Section16: Other information

Full text if indicated H phrases mentioned in section 2,3:

H226: Flammable liquid and vapour

H302: Harmful if swallowed

H314: Causes severe skin burns and eye damage

H315: Causes skin irritation

H319: Causes serious eye irritation

H412: Harmful to aquatic life with long lasting effects

Clarifications of aberrations and acronyms

Acute Tox.4: Acute toxicity, Category 4

Aquatic Chronic 2: Hazardous to the aquatic environment, long-term hazard Category 2

Eye Irrit.2: Serious eye irritation, Category 2

Flam. Liq.3: Flammable liquid, Category 3

Skin Corr.1B: Skin corrosion, Category 1B

Skin Irrit.2: Skin irritation, Category 2

PBT: Persistent, Bioaccumulative and Toxic substance

vPvB: very Persistent, very Bioaccumulative substance

OECD: Organisation for Economic Co-operation and Development

LC50: Median Lethal concentration

LD50: Median Lethal dose

ATEmix: Acute Toxicity Estimate of mixture

bw: body weight

LoW: List of Wastes

Trainings:

Before commencing working with the product, the user should learn the Health & Safety regulations, regarding handling chemicals, and in particular, undergo a proper workplace training.

Key literature references and sources for data:

This SDS was prepared on the basis of sheets of the individual components, literature data, online databases (eg. ECHA)

as well as our knowledge and experience, taking into account current legislation.

Methods of evaluating information which was used for the purpose of classification acc. Regulation (EC) No 1272/2008

ATEmix: calculation method

Serious eye damage/irritation: additivity approach

Methods of evaluating information which was used for the purpose of transport acc. ECE/TRANS/242 (Vol.I):

Not applicable

Other data

Purity of the ingredients present in Section 3 is > 98%, and does not affect the classification.

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THIS SDS ANNULS AND REPLEACES ALL PREVIOUS VERSIONS

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