

SECTION 1: Identification

1.1. Identification

Product form : Substance
 Trade name : HopFlow
 Chemical name : Hop, Humulus lupulus, ext.
 CAS-No. : 8060-28-4

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Manufacturing of food

1.3. Supplier

Manufacturer/Supplier/Importer

S. S. Steiner, Inc.
 725 5th Ave. 23 rd Floor
 New York, NY 10022 - USA
 T +1 212 838 8900

Email competent person

sds@kft.de

Manufacturer/Supplier/Importer

Simon H. Steiner, Hopfen, GmbH
 Auhofstr. 18
 Mainburg, 84048 - Germany
 T +49-(0)8751-8605-0 - F +49-(0)8751-8605-80

Supplier/Importer

Steiner Hops Ltd.
 185-189 High St
 Epping, Essex CM16 4BL - United Kingdom

1.4. Emergency telephone number

Emergency number : S. S. Steiner, Inc.
 Phone: +1 212 838 8900 (Monday – Friday 08.00 – 17.00, Eastern Time Zone)

Simon H. Steiner, Hopfen, GmbH
 Tel.: +49-8751-8605-0 (Monday – Friday 08:00 – 17:00, Central European Time)

Steiner Hops Ltd.
 Phone: +44 1992 572 331 (Monday – Friday 08.00 – 17.00, Greenwich Mean Time)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Flammable liquids Category 4	H227	Combustible liquid
Skin corrosion/irritation Category 2	H315	Causes skin irritation
Serious eye damage/eye irritation Category 2	H319	Causes serious eye irritation
Skin sensitization, Category 1	H317	May cause an allergic skin reaction

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS-US labeling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) :

Warning

Hazard statements (GHS-US) :

H227 - Combustible liquid
 H315 - Causes skin irritation
 H317 - May cause an allergic skin reaction
 H319 - Causes serious eye irritation

Precautionary statements (GHS-US) :

P210 - Keep away from heat, hot surfaces, sparks, open flames. - No smoking.
 P261 - Avoid breathing mist, vapors, spray.
 P264 - Wash hands, forearms and face thoroughly after handling.

HopFlow

Safety Data Sheet

according to US OSHA Hazard Communication Standard (HCS 2012); 29 CFR Part 1910.1200

P272 - Contaminated work clothing must not be allowed out of the workplace
P280 - Wear protective gloves, protective clothing, eye protection.
P302+P352 - If on skin: Wash with plenty of water
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P403+P235 - Store in a well-ventilated place. Keep cool.
P501 - Dispose of contents/container to a hazardous or special waste collection point

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type : UVCB

Name	Product identifier	%	GHS-US classification
Hop, Humulus lupulus, ext. (Main constituent)	(CAS-No.) 8060-28-4	-	Flam. Liq. 4, H227 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : In all cases of doubt, or when symptoms persist, seek medical attention.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion : Rinse mouth. Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after skin contact : May cause an allergic skin reaction. Irritation.
Symptoms/effects after eye contact : Eye irritation.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide. Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media : Strong water jet.

5.2. Specific hazards arising from the chemical

Fire hazard : Flammable liquid and vapour.
Reactivity : Flammable liquid and vapour.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Cool closed containers exposed to fire with water spray.
Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
Other information : Do not allow run-off from fire fighting to enter drains or water courses. Disposal must be done according to official regulations.

HopFlow

Safety Data Sheet

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Avoid breathing mist, vapors, spray. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid sub-soil penetration. Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Cover spill with non combustible material, e.g.: sand/earth. Take up mechanically (sweeping, shoveling) and collect in suitable container for disposal.

Other information : Disposal must be done according to official regulations.

6.4. Reference to other sections

Information for safe handling. See section 7. Concerning personal protective equipment to use, see section 8. For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Avoid breathing mist, vapors, spray. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapors may accumulate in the container. Use explosion-proof equipment. Avoid contact with skin and eyes. Wear personal protective equipment.

Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment.

Storage conditions : Store in a well-ventilated place. Keep cool.

Maximum storage period : ≈ 4 years

Storage temperature : 50 °F

Information about storage in one common storage facility : Keep away from food, drink and animal feeding stuffs.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Chemically resistant protective gloves. Nitrile rubber. butyl rubber. Choosing the proper glove is a decision that depends not only on the type of material, but also on other quality features, which differ for each manufacturer. Please follow the instructions related to the permeability and the penetration time provided by the manufacturer. Gloves must be replaced after each use and whenever signs of wear or perforation appear

Eye protection:

Use splash goggles when eye contact due to splashing is possible

Skin and body protection:

HopFlow

Safety Data Sheet

according to US OSHA Hazard Communication Standard (HCS 2012); 29 CFR Part 1910.1200

Wear suitable protective clothing

Respiratory protection:

Accidental release measures. In case of inadequate ventilation wear respiratory protection. Filter type: A.

Other information:

Do not eat, drink or smoke when using this product. Avoid contact with skin and eyes. Always wash hands after handling the product.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Viscous.
Color	: Gold colored amber
Odor	: characteristic
Odor threshold	: No data available
pH	: 3.5 - 4.5
Melting point	: Thermal decomposition (OECD 102 method)
Freezing point	: No data available
Boiling point	: Thermal decomposition (OECD 103 method)
Flash point	: ≈ 178 °F
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not applicable
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Specific gravity / density	: 0.9 - 1 g/ml (68 °F)
Solubility	: Water: < 1 mg/l (68 °F; pH 7)
Log Pow	: Not applicable
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: 300 - 500 mPa.s (68 °F)
Explosion limits	: No data available
Explosive properties	: Product is not explosive.
Oxidizing properties	: Non oxidizing material.

9.2. Other information

Other properties : No additional information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

Flammable liquid and vapour.

10.2. Chemical stability

Stable under normal conditions. To avoid thermal decomposition, do not overheat.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Oxidizing agent.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

HopFlow

Safety Data Sheet

according to US OSHA Hazard Communication Standard (HCS 2012); 29 CFR Part 1910.1200

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal) : Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation) : Not classified (Based on available data, the classification criteria are not met)

Hop, Humulus lupulus, ext. (8060-28-4)	
LD50 oral rat	> 2000 mg/kg body weight
ATE US (oral)	247 mg/kg body weight

Skin corrosion/irritation : Causes skin irritation.
pH: 3.5 - 4.5

Serious eye damage/irritation : Causes serious eye irritation.
pH: 3.5 - 4.5

Respiratory or skin sensitization : May cause an allergic skin reaction.

Germ cell mutagenicity : Not classified (Based on available data, the classification criteria are not met)

Carcinogenicity : Not classified (Based on available data, the classification criteria are not met)

Reproductive toxicity : Not classified (Based on available data, the classification criteria are not met)

Specific target organ toxicity – single exposure : Not classified (Based on available data, the classification criteria are not met)

Specific target organ toxicity – repeated exposure : Not classified (Based on available data, the classification criteria are not met)

Aspiration hazard : Not classified
(Based on available data, the classification criteria are not met)

Viscosity, kinematic : No data available

Symptoms/effects after skin contact : May cause an allergic skin reaction. Irritation.

Symptoms/effects after eye contact : Eye irritation.

SECTION 12: Ecological information

12.1. Toxicity

Hop, Humulus lupulus, ext. (8060-28-4)	
EC50 Daphnia 1	> 5.8 mg/l (48 h; Daphnia magna; (OECD 202 method))
ErC50 (algae)	52.5 mg/l (72 h; Pseudokirchneriella subcapitata; (OECD 201 method))

12.2. Persistence and degradability

Hop, Humulus lupulus, ext. (8060-28-4)	
Persistence and degradability	Not readily biodegradable.
Biodegradation	26 % (28 d; (OECD 301D method))

12.3. Bioaccumulative potential

Hop, Humulus lupulus, ext. (8060-28-4)	
Log Pow	Not applicable

12.4. Mobility in soil

Hop, Humulus lupulus, ext. (8060-28-4)	
Log Koc	1.7 - 4.5 (Quantitative structure-activity relationship (QSAR))

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Disposal must be done according to official regulations. Do not dispose of with domestic waste.
Do not discharge into drains or the environment.

HopFlow

Safety Data Sheet

according to US OSHA Hazard Communication Standard (HCS 2012); 29 CFR Part 1910.1200

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description	: NA1993 Combustible liquid, n.o.s. (Hop, Humulus lupulus, ext.), 3, III
UN-No.(DOT)	: NA1993
Proper Shipping Name (DOT)	: Combustible liquid, n.o.s. Hop, Humulus lupulus, ext.
Class (DOT)	: 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Packing group (DOT)	: III - Minor Danger
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 203
DOT Packaging Bulk (49 CFR 173.xxx)	: 241
DOT Symbols	: D - Proper shipping name for domestic use only, or to and from Canada,G - Identifies PSN requiring a technical name
DOT Special Provisions (49 CFR 172.102)	: IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672). T1 - 1.5 178.274(d)(2) Normal..... 178.275(d)(2) T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 150
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 60 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 220 L
DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
Emergency Response Guide (ERG) Number	: 128
Other information	: No supplementary information available.

Transportation of Dangerous Goods

Not applicable

Transport by sea

Not regulated

Air transport

Not regulated

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

HopFlow	CAS-No. 8060-28-4	100%
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This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.2. International regulations

HopFlow

Safety Data Sheet

according to US OSHA Hazard Communication Standard (HCS 2012); 29 CFR Part 1910.1200

Hop, Humulus lupulus, ext. (8060-28-4)

Manufacturing of food

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm.

SECTION 16: Other information

according to US OSHA Hazard Communication Standard (HCS 2012); 29 CFR Part 1910.1200

Revision date : 11/09/2018
Data sources : IUCLID-Dossier from ECHA. Information provided by the manufacturer.
Department issuing data specification sheet: : KFT Chemieservice GmbH
Im Leuschnerpark. 3 64347 Griesheim
Postfach 1451 64345 Griesheim
Germany
Phone: +49 6155-8981-400 Fax: +49 6155 8981-500
Safety Data Sheet Service: +49 6155 8981-522
Contact person : Stefanie Zgorzelski

Full text of H-phrases:

H227	Combustible liquid
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation

Abbreviations and acronyms:

HopFlow

Safety Data Sheet

according to US OSHA Hazard Communication Standard (HCS 2012); 29 CFR Part 1910.1200

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC50	Median effective concentration
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
TLM	Median Tolerance Limit
vPvB	Very Persistent and Very Bioaccumulative

Indication of changes:

General revision. Identification.

KFT SDS US 00

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product