

# Firmenich

## GHS Safety Data Sheet - US

According to Regulation HCS 2012

This Safety Data Sheet cancels and replaces all preceding SDS for this product.

### 1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

#### 1.1 Product identifier

**032048 SAEK**  
MANDARINAL 032048 SAEK  
© Firmenich product

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Fragrance ingredient for use in consumer products.  
Not for personal use in this form or concentration.  
Intended to be used in the manufacture of products for consumers.

#### 1.3 Details of the supplier of the safety data sheet

**Mr. Thomas Sulich**  
Firmenich Inc.  
P.O. Box 5880  
Princeton - New Jersey 08543 - USA  
thomas.sulich@firmenich.com  
Tel.:+1.609.452.10.00 - Fax.:+1.609.275.72.38

#### 1.4 Emergency telephone number

FOR INFORMATION OR IN AN EMERGENCY CALL CHEMTREC @ 1-800-424-9300 or 1-703-527-3887.

### 2 HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

According to Regulation HCS 2012

Flammable Liquid - Cat. 4	H227
Aspiration Hazard - Cat. 1	H304
Skin Irritation - Cat. 2	H315
Skin Sensitization - Cat. 1	H317
Eye Irritation - Cat.2A	H319
Environmental Hazard (chronic) - Cat. 2	H411

#### Additional information

Full text of listed statements : See section 16

#### 2.2 Label elements

**Hazard pictograms:**

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**Signal Word:**

Danger

**Hazard Statements:**

H304 May be fatal if swallowed and enters airways.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H227 Combustible liquid  
H411 Toxic to aquatic life with long lasting effects.

**Precautionary Statements:**

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P403+P235 Store in a well-ventilated place. Keep cool.  
P405 Store locked up.

2.3 Other hazards

No data available at this time.

**3 COMPOSITION/INFORMATION ON INGREDIENTS**

The exact percentage (concentration) of composition has been withheld as a trade secret.

**3.2 Mixture**

Mixture of aromatic substances.

Contains :

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$\geq 15.0 < 20.0\%$

Limonene

N° CAS : 0000138-86-3

N° EINECS: 205-341-0

GHS Classification:

Aspiration Hazard - Cat. 1 [H304]

Skin Sensitization - Cat. 1B [H317]

Skin Irritation - Cat. 2 [H315]

Environmental Hazard (acute) - Cat. 1 [H400]

Environmental Hazard (chronic) - Cat. 1 [H410]

Flammable Liquid - Cat. 3 [H226]

$\geq 7.5 < 10.0\%$

1,6-Octadien-3-Ol, 3,7-

Dimethyl-

N° CAS : 0000078-70-6

N° EINECS: 201-134-4

GHS Classification:

Skin Sensitization - Cat. 1B [H317]

Skin Irritation - Cat. 2 [H315]

Eye Irritation - Cat.2A [H319]

Flammable Liquid - Cat. 4 [H227]

$\geq 2.5 < 5.0\%$

1,6-Octadien-3-Ol, 3,7-

Dimethyl-, 3-Acetate

N° CAS : 0000115-95-7

N° EINECS: 204-116-4

GHS Classification:

Skin Irritation - Cat. 2 [H315]

Eye Irritation - Cat.2A [H319]

Flammable Liquid - Cat. 4 [H227]

$\geq 2.5 < 5.0\%$

Terpineol

N° CAS : 0008000-41-7

N° EINECS: 232-268-1

GHS Classification:

Skin Irritation - Cat. 2 [H315]

Eye Irritation - Cat.2A [H319]

Flammable Liquid - Cat. 4 [H227]

$\geq 1.0 < 2.5\%$

Acetic Acid, Phenylmethyl  
Ester

N° CAS : 0000140-11-4

N° EINECS: 205-399-7

GHS Classification:

Environmental Hazard (chronic) - Cat. 3 [H412]

$\geq 1.0 < 2.5\%$

Undecanal

N° CAS : 0000112-44-7

N° EINECS: 203-972-6

GHS Classification:

Skin Irritation - Cat. 2 [H315]

$\geq 1.0 < 2.5\%$

2-Dodecenal, (E)-

N° CAS : 0020407-84-5

N° EINECS: 243-797-2

N° REACH: 01-

2120111676-59

GHS Classification:

Skin Sensitization - Cat. 1B [H317]

Skin Irritation - Cat. 2 [H315]

Eye Irritation - Cat.2A [H319]

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$\geq 0.1 < 0.5\%$

Undecanal, 2-Methyl-  
N° CAS : 0000110-41-8  
N° EINECS: 203-765-0  
N° REACH: 01-  
2119969443-29

GHS Classification:

Skin Sensitization - Cat. 1B [H317]  
Skin Irritation - Cat. 2 [H315]  
Environmental Hazard (acute) - Cat. 1 [H400]  
Environmental Hazard (chronic) - Cat. 1 [H410]  
Flammable Liquid - Cat. 4 [H227]

$\geq 0.1 < 0.5\%$

Dodecanal  
N° CAS : 0000112-54-9  
N° EINECS: 203-983-6

GHS Classification:

Skin Sensitization - Cat. 1B [H317]  
Skin Irritation - Cat. 2 [H315]  
Eye Irritation - Cat.2A [H319]

$\geq 0.1 < 0.5\%$

Heptanal, 2-  
(Phenylmethylene)-  
N° CAS : 0000122-40-7  
N° EINECS: 204-541-5

GHS Classification:

Skin Sensitization - Cat. 1B [H317]  
Environmental Hazard (chronic) - Cat. 2 [H411]

$\geq 0.1 < 0.5\%$

Bicyclo[3.1.1]Heptane,  
6,6-Dimethyl-2-  
Methylene-  
N° CAS : 0000127-91-3  
N° EINECS: 204-872-5

GHS Classification:

Aspiration Hazard - Cat. 1 [H304]  
Skin Sensitization - Cat. 1B [H317]  
Skin Irritation - Cat. 2 [H315]  
Environmental Hazard (acute) - Cat. 1 [H400]  
Environmental Hazard (chronic) - Cat. 1 [H410]  
Flammable Liquid - Cat. 3 [H226]

$\geq 0.1 < 0.5\%$

2,6-Octadienal, 3,7-  
Dimethyl-  
N° CAS : 0005392-40-5  
N° EINECS: 226-394-6

GHS Classification:

Skin Sensitization - Cat. 1B [H317]  
Skin Irritation - Cat. 2 [H315]  
Eye Irritation - Cat.2A [H319]

$\geq 0.1 < 0.5\%$

Cyclohexene, 1-Methyl-  
4-(1-Methylethylidene)-  
N° CAS : 0000586-62-9  
N° EINECS: 209-578-0

GHS Classification:

Aspiration Hazard - Cat. 1 [H304]  
Skin Sensitization - Cat. 1B [H317]  
Environmental Hazard (acute) - Cat. 1 [H400]  
Environmental Hazard (chronic) - Cat. 1 [H410]  
Flammable Liquid - Cat. 4 [H227]

$\geq 0.1 < 0.5\%$

Bicyclo[3.1.1]Hept-2-Ene,  
2,6,6-Trimethyl-  
N° CAS : 0000080-56-8  
N° EINECS: 201-291-9

GHS Classification:

Aspiration Hazard - Cat. 1 [H304]  
Skin Sensitization - Cat. 1B [H317]  
Skin Irritation - Cat. 2 [H315]  
Environmental Hazard (acute) - Cat. 1 [H400]  
Environmental Hazard (chronic) - Cat. 1 [H410]  
Flammable Liquid - Cat. 3 [H226]

#### **4 FIRST-AID MEASURES**

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### 4.1 Description of first aid measures

#### General information:

As in all cases of potential poisoning, Obtain medical advice immediately.

#### In case of eye contact:

In the event of contact with the eyes, irrigate with water for at least 15 minutes; obtain medical advice if irritation persists.

#### In case of inhalation:

In the event of exposure to vapors, immediately remove from the area to a fresh air environment. Individuals showing evidence of inhalation exposure should be taken to an uncontaminated area. Obtain medical advice immediately.

#### In case of skin contact:

Remove contaminated clothes. Wash skin with large volumes of water. If irritation persists, or any sign of tissue damage is apparent, obtain medical advice immediately.

#### In case of ingestion:

In the event of accidental ingestion, rinse mouth with water. Give up to one tumbler (half pint) of milk or water. Obtain medical advice immediately. Do not induce vomiting, obtain medical advice immediately.

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

No information available on the product itself.

### 4.3 Indication of immediate medical attention and special treatment needed

None known.

## **5 FIRE-FIGHTING MEASURES**

### 5.1 Extinguishing media

In the event of fire, adequate extinguishers should be used. Avoid inhalation of smoke and fumes. In case of insufficient ventilation, wear suitable respiratory equipment. Use standard procedures and preferred extinguishing media as stated below. Extinguishing media: Foam, carbon dioxide or dry chemical.

### 5.2 Special hazard arising from the substance or mixture

None.

### 5.3 Advice for fire-fighters

No specific advice.

## **6 ACCIDENTAL RELEASE MEASURES**

### 6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel:

Adequate protective gloves should be worn when handling spillages. No smoking. Avoid naked flames or other potential sources of ignition (eg. electrical equipment).

Avoid skin contamination and inhalation of vapour.

Individual washing routines should be followed after any potential contact.

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Ensure adequate ventilation in working areas following accidental releases.

For emergency personnel:  
Apply the same recommendations as section 6.1

### 6.2 Environmental precautions

Do not discharge directly into drains, air, into soil or into the aquatic environment.

### 6.3 Methods and material for containment and cleaning up

For containment:  
Small spills can be wiped up with a cloth or paper. Standard absorbents can be used (saw dust, sand, vermiculite). Wear rubber gloves. Avoid contact with skin. If skin contact occurs, wash liberally with soap and water.

For cleaning-up:  
Spillages should be disposed of in accordance with Governmental Regulations.

## 7 HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes.  
Wear adequate protective gloves protection and eye/face protection.  
No smoking. Avoid any sources of ignition.  
Avoid exposing to high temperature during processing.  
Do not ingest or apply to the skin as such. Good personal washing routines should be followed.  
Maintain adequate local and general ventilation where product is handled.

### Protective measures

Keep strict control of dust accumulation to a minimum. Maintain adequate local and general ventilation where product is handled. Avoid any sources of ignition.

### Advice on general occupational hygiene

Good personal washing routines should be followed.

### 7.2 Conditions for safe storage, including any incompatibilities

It is good general practice to store in closed, preferably full, containers away from heat sources, and protected from extremes of temperature. Do not re-use the empty container.  
Respect general rules for compatibility storage.

### 7.3 Specific end use(s)

Not available at this time.

## 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

0000140-11-4 : Benzyl acetate (All forms)  
American Conference of Governmental Industrial Hygienists (ACGIH) - Threshold Limit Values (TLV)  
(1995-MAY)  
TWA (1995-MAY) : 10 ppm , 8 hours (All forms)  
TWA (1995-MAY) : 61 mg/m<sup>3</sup> , 8 hours (All forms)

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0005392-40-5 : Citral (Inhalable fraction and vapor)  
American Conference of Governmental Industrial Hygienists (ACGIH) - Threshold Limit Values (TLV)  
(2012-MAR)  
TWA (2009-NOV) : 5 ppm , 8 hours (All forms)

0000080-56-8 : alpha-Pinene (All forms)  
American Conference of Governmental Industrial Hygienists (ACGIH) - Threshold Limit Values (TLV)  
(2003-JAN)  
TWA (2003-JAN) : 20 ppm , 8 hours (All forms)

0000127-91-3 : beta-Pinene (All forms)  
American Conference of Governmental Industrial Hygienists (ACGIH) - Threshold Limit Values (TLV)  
(2003-JAN)  
TWA (2003-JAN) : 20 ppm , 8 hours (All forms)

0000138-86-3 : d-Limonene (All forms)  
American Industrial Hygiene Association (AIHA) - Workplace Environmental Exposure Levels (WEEL)  
(1999-JAN)  
TWA (1999-JAN) : 30 ppm , 8 hours (All forms)

### 8.2 Exposure controls

Avoid exposing to high temperature during processing.  
Maintain adequate local and general ventilation where product is handled.

### Appropriate engineering controls

Maintain adequate local and general ventilation where product is handled and dispensed.

### Environmental exposure controls

Not available at this time. Minimize release to the environment.

### Personal protection

Respiratory protection: Breathing of the vapors or dust particles may be hazardous. In the absence of appropriate engineering controls such as spot ventilation, ventilated enclosures, etc., workers should avail themselves of the appropriate NIOSH approved respiratory protection.

Hand protection: Adequate Protective Gloves should be worn.

Eye protection: Adequate safety glasses should be used.

Skin protection: Wear protective clothing, overall if necessary to limit the odour contamination of personal clothing. Individual washing routines should be followed after any potential contact.

## **9 PHYSICAL AND CHEMICAL PROPERTIES**

### 9.1 Information on basic physical and chemical properties

Appearance :	LIQUID
Colour :	YELLOW TO DARK YELLOW
Odour :	Characteristic strong odour according to the commercial description of the substance.

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pH :	Not available
Melting point/range (°C) :	Not available
Initial boiling point/range (°C) :	> 40°C
Flash point (closed cup) :	= 145 Fahrenheit (= 63 Centigrade)
Evaporation rate :	Not available
Flammability (solid/gas) :	Not available
Upper/lower flammability or explosive limits :	
Vapor pressure (At 20°C in mm Hg ) :	
Calculated vapor pressure (At 20°C in mm Hg):	0.2
Vapour density :	Not available
Relative density (d 20/20) :	0.953 - 0.963
Water solubility (20°C) :	Not applicable
Partition coef. (n-octanol/water) :	Not applicable
Auto-ignition temperature (°C):	Not available
Decomposition temperature :	Not available
Viscosity :	Not available
Explosive properties :	Not available
Oxidizing properties :	Not available

### **10 STABILITY AND REACTIVITY**

#### 10.1 Reactivity

No reaction known with water.

#### 10.2 Chemical stability

Presents no significant reactivity hazard. Normally stable even at elevated temperatures and pressures. Avoid temperatures above or near to the flash point. Not pyrophoric nor reactive with water. Does not undergo explosive decomposition, is shock stable, and is not an oxygen donor. Does not form explosive mixtures with other organic materials. Will not undergo hazardous exothermic polymerization.

#### 10.3 Possibility of hazardous reactions

Not known.

#### 10.4 Conditions to avoid

Avoid temperatures above or at least 5 °C below flash point for any flammable liquids.  
Do not heat closed containers.  
Avoid contact with oxidizing agents.

#### 10.5 Incompatible materials

Avoid strong oxidizing agents.

#### 10.6 Hazardous decomposition products

Contact with water or storage under recommended conditions for one year should not produce dangerous decomposition products.

### **11 TOXICOLOGICAL INFORMATION**



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This mixture has not been subjected to toxicological testing as an entity. According to available data on the constituents the health classification criteria are met.

### **12 ECOLOGICAL INFORMATION**

This mixture has not been subjected to ecotoxicological testing as an entity. According to available data on the constituents the environmental classification criteria are met.

### **13 DISPOSAL CONSIDERATIONS**

#### **13.1 Waste treatment methods**

Product: The product should be handled according to the instructions given under sections 6, 7 and 8. Dispose of according to local or national regulations. The product should not be allowed to enter drains or the environment.

Contaminated packaging: Empty packaging should be disposed according to local or national regulations by an approved waste handling

### **14 TRANSPORT INFORMATION**

In case of accidental spillage or fire during transport, refer to instructions given under points 5, 6, 7 and 8 above.

#### UNO

UN-No:	3082
Proper Shipping Name:	Environmentally hazardous substance, liquid, n.o.s. (LIMONENE)
Class:	9
Packing Group:	III Hazardous to the Environment

#### Land transport (ADR/RID)

UN-No:	3082
Proper Shipping Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (LIMONENE)
Class:	9
Packing group:	III

#### Sea transport (IMDG-Code)

UN-No:	3082
Proper Shipping Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (LIMONENE)
Class:	9
Packing group:	III Marine pollutant

#### Air transport (ICAO-IATA)

UN-No:	3082
Proper Shipping Name:	Environmentally hazardous substance, liquid, n.o.s. (LIMONENE)

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This Safety Data Sheet cancels and replaces all preceding SDS for this product.

Class: 9  
Packing group: III

### **15 REGULATORY INFORMATION**

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

This mixture contains a toxic chemical or chemicals subject to reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 29 CFR 1910.1200.  
35.1% Glycol ethers

#### 15.2 Chemical Safety Assessment

No data available at this time.

### **16 OTHER INFORMATION**

#### Revisions

01-Dec-2010: Version 6.1 - First version validated for publication  
04-May-2012: Version 6.2 - Updates to sections 1, 2, 3, 8.3, 11, 12, 16.  
20-Apr-2013: Version 6.3 - Updates to sections 1, 2, 3, 8.1, 14, 16.  
07-July-2014: Version 6.4- Updates to section 2, 3, 14, 16.  
30-May-2015: Version 6.5- Updates to section 2, 3, 7, 8, 9,13,14,16  
13-June-2016: Version 6.6 Updates to sections 2, 3, 16  
02-Aug-2016: Version 6.7 – Updates to Sections 9, 15, 16

#### Key literature references

RIFM database  
OECD SIDS  
EU IUCLID  
Supplier information

#### Full text of phrases used under section 2

H227	Combustible liquid
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H411	Toxic to aquatic life with long lasting effects.
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash thoroughly after handling.
P273	Avoid release to the environment.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.

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P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P370+P378	In case of fire: Use appropriate fire extinguishers for fire control.
P391	Collect spillage.
P331	Do NOT induce vomiting.
P362	Take off contaminated clothing and wash before reuse.
P363	Wash contaminated clothing before reuse.
P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P337	If eye irritation persists:

### Full text of phrases used under section 3

H226	Flammable liquid and vapour.
H227	Combustible liquid
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

**We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and the conditions of use of the product are not within the control of Firmenich, it is the user's obligation to determine conditions of safe use of the product.**

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