



Safety Data Sheet

acc. to OSHA HCS

Printing date 11/01/2016

Version 1

Reviewed on 11/01/2016

1 Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name : Ledipasvir
Product number : 1753249
CAS-No. : 1256388-51-8

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

Identified uses : Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier: J&K Scientific LLC
601 Interchange Blvd, Newark, DE 19711
Telephone/Fax: +1 952 942 3333 / +1 952 942 3322
E-mail address: jkus@jk-scientific.com
J&K Scientific Ltd.
AEF 18/F Bldg-D Majesty Garden 6 Bei-Si-Huan-Zhong Rd. Beijing
Telephone/Fax: +86 10 8284 8833 / +86 10 8284 9933
E-mail address: jkinfo@jkchemical.com

Preparation Information: Product safety department

Emergency telephone number: +1 800 424 9300 (for USA & Canada)

2 Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

2.2 Label elements

GHS label elements

The substance is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms



GHS07

Signal word

Warning

Hazard statements

Harmful if swallowed.

Precautionary statements

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

Rinse mouth.

Dispose of contents/container in accordance with local/regional/national/international regulations.

Classification system

NFPA ratings (scale 0 - 4)



Health = 2

Fire = 0

Reactivity = 0

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HMIS-ratings (scale 0 - 4)

HEALTH	2	Health = 2
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.
vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Substances

MF: C49H54F2N8O6
MW: 889.02
CAS-No. Description: 1256388-51-8 Ledipasvir

4 First-aid measures

4.1 Description of first aid measures

General information: Consult a physician. Show this safety data sheet to the doctor in attendance.

After inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

After skin contact: Wash off with soap and plenty of water. Consult a physician.

After eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

After swallowing: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Information for doctor

Most important symptoms and effects, both acute and delayed To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Indication of any immediate medical attention and special treatment needed

No data available

5 Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing agents: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Carbon oxides, Nitrogen oxides (NOx).

5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Avoid breathing dust. Remove persons from danger area.

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Product name : Ledipasvir**Environmental precautions:** Do not let product enter drains.**6.2 Methods and material for containment and cleaning up**

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

6.3 Reference to other sections

See Section 7 for information on safe handling.
 See Section 8 for information on personal protection equipment.
 See Section 13 for disposal information.

7 Handling and storage

7.1 Handling**Precautions for safe handling**

No special measures required. For precautions see section 2.2.

Information about protection against explosions and fires

No special measures required.

7.2 Storage**Conditions for safe storage, including any incompatibilities**

Store in a cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Heat sensitive. Light sensitive. Freezer -20 °C.

Storage Class (TRGS510):

LGK 13: Non-combustible solids that cannot be assigned to any of the above storage classes

8 Exposure controls/personal protection

8.1 Control parameters**Components with limit values that require monitoring at the workplace**

Not required.

Additional information:

The lists that were valid during the creation were used as basis.

Exposure controls**8.2 Personal protective equipment****General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.
 Wash hands before breaks and at the end of work.

Breathing equipment:

Not required.

Protection of hands:

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves :

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Body protection:

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

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9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance

Form:	Powder
Color:	White
Odor:	No data available
Odor threshold:	Not determined.
pH-value:	Not applicable.

Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.

Flash point: Not applicable.

Flammability (solid, gaseous): Product is not flammable.

Ignition temperature:

Decomposition temperature: Not determined.

Auto igniting: Not determined.

Danger of explosion: Product does not present an explosion hazard.

Explosion limits

Lower:	Not determined.
Upper:	Not determined.

Vapor pressure: Not applicable.

Density: Not determined.

Bulk density: Not determined

Relative density: Not determined.

Vapor density: Not applicable.

Evaporation rate: Not applicable.

Solubility in / Miscibility with

Water: Not determined.

Partition coefficient (n-octanol/water): Not determined.

Viscosity:

Dynamic: Not applicable.

Kinematic: Not applicable.

Other information: no data available

10 Stability and reactivity

10.1 Reactivity	No data available
10.2 Chemical stability	Stable under recommended storage conditions.
10.3 Possibility of hazardous reactions	No dangerous reactions known.
10.4 Conditions to avoid	No data available
10.5 Incompatible materials	No data available
10.6 Hazardous decomposition products	No dangerous decomposition products known.

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Carbon oxides, Nitrogen oxides (NOx).

11 Toxicological information

11.1 Information on toxicological effects

Primary irritant effect

on the skin: No irritant effect.
 on the eye: No irritating effect.
 Sensitization: No sensitizing effects known.

Carcinogenic categories

IARC (International Agency for
 Research on Cancer) Substance is not listed.
 NTP (National Toxicology Program) Substance is not listed.
 OSHA-Ca (Occupational Safety &
 Health Administration) Substance is not listed.

12 Ecological information

12.1 Toxicity

Aquatic toxicity No data available

12.2 Persistence and degradability

No data available

12.3 Behavior in environmental systems

Bioaccumulative potential : No data available
 Mobility in soil : No data available

12.4 Additional ecological information

General notes: Not known to be hazardous to water.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.
 vPvB: Not applicable.

12.6 Other adverse effects : No data available

13 Disposal considerations

13.1 Product Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

13.2 Contaminated packaging Dispose of as unused product.

13.3 Recommendation Disposal must be made according to official regulations.

14 Transport information

14.1 UN-Number

DOT, ADR, IMDG, IATA UN3077

14.2 UN proper shipping name

DOT Environmentally hazardous substances, solid, n.o.s.
 (Ledipasvir)
 ADR 3077 Environmentally hazardous substances, solid, n.o.s.
 (Ledipasvir)

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Product name : Ledipasvir**IMDG, IATA**ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
N.O.S. (Ledipasvir)**14.3 Transport hazard class(es)****DOT, ADR, IMDG, IATA****Class**

9 Miscellaneous dangerous substances and articles

14.4 Packing group**DOT, ADR, IMDG, IATA**

III

14.5 Environmental hazards:

Not applicable.

Special precautions for user

Warning: Miscellaneous dangerous substances and articles

EMS Number:

F-A,S-F

Stowage Category

A

Stowage CodeSW23 When transported in BK3 bulk container, see 7.6.2.12
and 7.7.3.9.**Transport in bulk according to Annex II of
MARPOL73/78 and the IBC Code**

Not applicable.

14.6 Transport/Additional information:

Not dangerous according to the above specifications.

ADR**Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 g

Maximum net quantity per outer packaging: 1000 g

UN "Model Regulation":UN 3077 ENVIRONMENTALLY HAZARDOUS
SUBSTANCES, SOLID, N.O.S. (LEDIPASVIR), 9, III

15 Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**Sara****Section 355 (extremely hazardous substances):**

Substance is not listed.

Section 313 (Specific toxic chemical listings):

Substance is not listed.

TSCA (Toxic Substances**Control Act):**

Substance is not listed.

Proposition 65**Chemicals known to cause cancer:**

Substance is not listed.

Chemicals known to cause reproductive toxicity for females:

Substance is not listed.

Chemicals known to cause reproductive toxicity for males:

Substance is not listed.

Chemicals known to cause developmental toxicity:

Substance is not listed.

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Product name : Ledipasvir**Carcinogenic categories**

EPA (Environmental Protection Agency)

Substance is not listed.

TLV (Threshold Limit Value established by ACGIH)

Substance is not listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)

Substance is not listed.

GHS label elements

The substance is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms

GHS07

Signal word

Warning

Hazard statements

Harmful if swallowed.

Precautionary statements

Wash thoroughly after handling.

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Rinse mouth.

Dispose of contents/container in accordance with local/regional/national/international regulations.

15.2 Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

16 Other information

The above information is believed to be correct but does not represent any guarantee of the properties of the product, Some new information or amendments may be added afterwards. Prior to use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority. The products are supposed to be used promptly after purchase in consideration of safety. All chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set up on each user's own responsibility. Any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

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REL: Recommended Exposure Limit
Acute Tox. 4: Acute toxicity – Category 4