



MATERIAL SAFETY DATA SHEET (MSDS)

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

MedKoo Code#	501205	 Chemical structure of Grazoprevir (MK5172)
Product name :	Grazoprevir (MK5172)	
Company :	MedKoo Biosciences Inc.	
Telephone	919-636-5577	
Fax :	919-980-4831	
Emergency Phone # :	911	

2. HAZARDS IDENTIFICATION

Risk advice to man and the environment

Harmful if swallowed. Irritating to eyes, respiratory system and skin.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms :	Brand name: .Zepatier
	Other name: MK-5172; MK 5172; MK5172; Grazoprevir. .
	Chemical name: (33R,35S,91R,92R,5S)-5-(tert-butyl)-N-((1R,2S)-1-((cyclopropylsulfonyl)carbamoyl)-2-vinylcyclopropyl)-17-methoxy-4,7-dioxo-2,8-dioxa-6-aza-1(2,3)-quinoxalina-3(3,1)-pyrrolidina-9(1,2)-cyclopropanacyclotetradecaphane-35-carboxamide
Formula :	C38H50N6O9S
Molecular Weight :	766.91 g/mol

CAS No	EINECS#	Hazard Symbols	Risk Phrases
1350514-68-9	unlisted	unlisted	unlisted

4. FIRST AID MEASURES

General advice	Consult a physician. Show this safety data sheet to the doctor in attendance.
Inhalation	If breathed in, move person into fresh air. If not breathing give artificial respiration

	Consult a physician.
Skin	Wash off with soap and plenty of water. Consult a physician.
Eyes	In case of eye contact, rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
Ingestion	If swallowed: never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Special protective equipment for fire-fighters	Wear self contained breathing apparatus for firefighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation.
Environmental precautions	Do not let product enter drains.
Methods for cleaning up	Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Handling	Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.
Storage	Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Controls:

Engineering Controls:	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentration low.
------------------------------	---

Personal protective equipment

Respiratory protection	Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Hand protection	The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Handle with gloves.
Eye protection	Safety glasses

Skin and body protection	Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Hygiene measures	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:

Form	Solid
Color	White to off-white

Safety Data:

pH	No data available
Melting point	No data available
Boiling point	No data available
Flash point/lower explosion limit	No data available
Ignition temperature	No data available
Lower explosion limit	No data available
Upper explosion limit	No data available
Water solubility	No data available

10. STABILITY AND REACTIVITY

Storage stability	Stable under recommended storage conditions.
Materials to avoid	Oxidizing agents
Hazardous decomposition products	Hazardous decomposition products formed under fire conditions. - Carbon oxides

11. TOXICOLOGICAL INFORMATION

Acute toxicity:	no data available
Irritation and corrosion:	no data available
Sensitization	no data available
Chronic exposure	no data available
Genotoxicity in vitro - Human	no data available
Signs and Symptoms of Exposure	To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Potential Health Effects

Inhalation:	May be harmful if inhaled. Causes respiratory tract irritation.
Skin:	May be harmful if absorbed through skin. Causes skin irritation.
Eyes:	Causes eye irritation.
Ingestion:	Harmful if swallowed.

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)	no data available
Ecotoxicity effects	no data available
Further information on ecology	no data available

13. DISPOSAL CONSIDERATIONS

Product	Observe all federal, state, and local environmental regulations. 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.
Contaminated packaging	Dispose of as unused product.

14. TRANSPORT INFORMATION

ADR/RID	Not dangerous goods
IMDG	Not dangerous goods
IATA	Not dangerous goods

15. REGULATORY INFORMATION

Labeling according to EC Directives:

Hazard symbols	Xi Harmful
R-pharse(s)	R22: Harmful if swallowed. R36/37/38: Irritating to eyes, respiratory system and skin.
S-pharse(s)	S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S36/37: Wear suitable protective clothing and gloves.

US Classification and Label Text:

Indication of Danger	Irritant
Risk statements	Irritating to eyes, respiratory system and skin
Safety statements	Wear a suitable protective clothing. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

United States Regulatory Information:

SARA Listed	No
-------------	----

Canada Regulatory Information:

WHMIS Classification	This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL:	No
NDSL:	No.

16. OTHER INFORMATION

Further information:

Copyright © 2016 MedKoo Biosciences. This information 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, or damages of any third party or for the 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.

MSDS last updated: 4/13/2016; printed date: 4/22/2016

-End of material safety data sheet-