

Material Safety Data Sheet

According to EC directive 2001/58/EC

Reviewed on 2021. 10. 06

1. Information of chemical product and company

Product Information

Name : **RealMOD™ Probe M² 2x qRT-PCR mix (with UDG)**
Code : **25361.100 / 25361.500 / 25361.1000**
General use: RNA nucleic acids extracted from samples can be applied to the test as molds. The presence or absence of a target can be detected through the reaction of a primer and a fluorescent probe specific to the target gene present in the sample using the probe method Real-time RT-PCR.
Restriction on use: It is prohibited to be used for purposes other than Research Use Only(RUO)
INtRON Biotechnology, Inc.
Manufacturer : #701~704, 137 Sagimakgol-ro, Jungwon-gu, Seongnam-si, Gyeonggi-do 13202, Korea
Tel : 031-739-5086
Fax : 031-739-5072
Responsible Dept. 031-739-5066
Emergency call 031-739-5071

2. COMPOSITION/INFORMATION ON INGREDIENTS

- RealMOD™ Probe M² 2x qRT-PCR mix (with UDG)
 - Characteristics : Transparent liquid reagent
 - Labeling : RealMOD™ Probe M² 2x qPCR mix (with UDG)
 - Composition

Chemical name	CAS.No.	Content(%)
Tris	77-86-1	< 2%
KCl	7447-40-7	< 0.8%
MgCl ₂	7786-30-3	< 0.1%
dATP	1927-31-7	< 0.05%
dCTP	109909-44-6	< 0.05%
dGTP	93919-41-6	< 0.05%
dTTP	3624-46-2	< 0.05%
dUTP	102814-08-4	< 0.05%
UDG	N/A	< 0.05%
RNase inhibitor	N/A	< 0.05%
Reverse transcriptase	N/A	< 0.05%
Trehalose	6138-23-4	< 10%
BSA	9048-46-8	< 0.05%
Ammonium Sulfate Solution	7783-20-2	< 0.3%
Taq DNA Polymerase	N/A	< 0.01%

3. Hazard identification

A. Hazard and risk classification.

RealMOD™ Probe M² 2x qRT-PCR mix (with UDG) N/A

B. Items of warning signs including precautionary measures.

Picture writing	N/A
Signal language	N/A
Hazardous and dangerous phrases	N/A
Preventive measures	N/A.

C. Other hazards and risks that are not included in the hazard and risk classification criteria(NFPA)

Health	N/A.
Fire	N/A.
Reactive.	N/A.

Risk recommendations for people or the environment

This product is classified as risk free under European Regulations 67/548/EC and 1999/45/EC.

Possible health effects

Eyes: May cause irritation to the eyes

Skin: Contact can be irritating to the skin

Inhalation: No toxicity expected from inhalation

4. FIRST AID TIPS

A. Eye contact	Wash your eyes under running water for at least 20 minutes immediately upon substance Take immediate medical measures
B. Skin contact	Wash your skin under running water for at least 20 minutes immediately upon substance Remove contaminated clothes and shoes and isolate them Wash clothes and shoes completely before reuse Take immediate medical measures
C. Inhalation contact	Take immediate medical measures Move to a place with fresh air If you don't breathe, do artificial respiration If you can't breathe well, supply oxygen
D. Ingestion contact	Don't feed anything to unconscious people Take immediate medical measures
E. Other precautions	Have medical personnel know about the substance and take protective measures Do not administer adrenaline drugs

5. FIREFIGHTING MEASURES

A. Suitable(Unsuitable) extinguishing media	Small fire : dry sand, dry chemical, alcohol-resostant form, water spray general form (suitable extinguishing agent) Large fire : water spary/mist, general form (suitable extinguishing agent) High pressure water (unsuitable extinguishing agent) May be ignited by heat, sparks or flames Container may explode when heated
B. Specific hazard arising from the chemical	Some can burn but it could not ignite easily In case of fire, it can cause irritating and toxic gases Inhalation of substances can be harmful Some liquids can cause dizziness and suffocation The rescuer should wear proper protective gear Get out of the area and maintain a safe distance
C. Special protective actions for firefighter	It can melt and be transported, so be careful Dig a ditch to dispose of the digestive water and trap it so that the substance doesn't scatter If it's not dangerous, move the container from the fire area

6. ACCIDENTAL RELEASE MEASURE

A. Personal precautions, protective equipment and emergency procedures	<p>Remove all ignition sources</p> <p>If it's not dangerous, stop leaking</p> <p>Pay attention to substances and conditions to avoid</p> <p>Ventilate contaminated areas</p> <p>Don't touch or walk around the exposed area</p> <p>Prevent dust formation</p> <p>Do not enter the space without appropriate protective equipment such as air respirators or ventilation masks until adequate air (oxygen concentration of 18-23.5%) is secured</p>
B. Environmental precautions	<p>Prevent inflow into waterways, sewers, cellars, and confined spaces</p> <p>In case of small leakage, wash the contaminated area with a large amount of water</p>
C. Methods and materials for containment and cleaning up	<p>In case of small leakage, absorb it with sand and non-combustible substances container</p> <p>If you leak a lot, make a ditch far away from liquid leakage</p> <p>Place the leakage in a clean, dry container with a clean shovel, close it loosely, and move the container from the leak area</p> <p>Cover it with a plastic sheet to prevent diffusion and keep it dry in case of powder leakage</p>

HANDLING AND STORAGE

A. Precautions for safe handling	<p>Pay attention to substances and conditions to avoid</p> <p>Wash thoroughly after handling it</p> <p>Please refer to engineering care and personal protective equipment</p> <p>Be careful of the high temperature</p> <p>Be careful not to leak when standing in an enclosed place as liquid evaporates rapidly and replaces air</p>
B. Precautions for safe handling	<p>Be careful not to leak any substances because they can reach harmful concentrations in the air</p> <p>Since the material may slowly evaporate at 20°C or reach a harmful concentration, keep it below 20°C and spray or do not spray (especially in the case of powder)</p> <p>Check the oxygen concentration before entering the place</p> <p>Keep it sealed</p>
C. Safe storage method	<p>Store in a cool, dry place</p> <p>Pay attention to substances and conditions to avoid</p>

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

A. Exposure limits for chemicals:	<p>Domestic regulations N/A</p> <p>ACGIH regulations N/A</p> <p>Biological exposure limit N/A</p>
B. Appropriate engineering controls	Process isolation, use local exhaust ventilation or keep air levels below exposure limits
C. Personal protective equipment	<p>Wear insulated gloves</p> <p>Wear a respirator certified by the Korea Occupational Safety and Health agency suitable for the physical and chemical properties of the substance to exposed</p> <p>Use chemical protection glasses and face shield</p>
Eye Protection	Install eyewash facilities and emergency shower facilities near the workplace
Hand protection	Wear suitable chemical resistant gloves
Body protection	Wear suitable chemical resistant protective clothing

9. PHYSICAL AND CHEMICAL PROPERTIES

A. Appearance	appearance	liquid
	color	colorless
B. Smell		odorless
C. Odor threshold		N/A
D. pH		7.4~8.3(25°C)
E. Melting point/freezing point		N/A
F. Initial boiling point and boiling range		N/A
G. Flash point		N/A
H. Evaporation rate		N/A
I. Flammability (solid, gas)		N/A
J. Upper/lower flammability or explosive limit		-/-
K. Vapor pressure		N/A
L. Solubility		Easily soluble in cold and hot water
M. Vapor density		N/A
N. Importance		N/A
O. n-octanol/water partition coefficient		N/A
P. Auto-ignition temperature		N/A
Q. Decomposition temperature		N/A
R. Viscosity		N/A
S. Molecular Weight		N/A

1. RealMOD™ Probe M² 2x qPCR mix (with UDG)

10. STABILITY AND REACTIVITY

A. Chemical Stability and harmful possibility of reaction	Container may explode when heated Some can burn but it could not ignite easily Product is stable
B. Conditions to avoid	No clear data available
C. Substances to avoid	Combustible substances, reducing substances, strong oxidizing agents
D. Hazardous substances produced during decomposition	No hazardous decomposition products under normal storage and use conditions

11. TOXICOLOGICAL INFORMATION

A. Information on the likely exposure route.	N/A
B. Health hazard information	
acute toxicity	
oral	N/A
transdermal	N/A
inhale	N/A
Skin corrosion or irritation	N/A
Serious eye damage or irritation	N/A
Respiratory hypersensitivity	N/A
Skin sensitization	N/A
carcinogenic	
Occupational Safety and Health Act	N/A
Ministry of Employment and Labor Notice	N/A
IARC	N/A
OSHA	N/A
ACGIH	N/A
NTP	N/A
EU CLP	N/A
Germ cell mutagenicity	N/A
Reproductive toxicity	N/A
Specific target organ toxicity (single exposure)	N/A
Specific target organ toxicity (repeated exposure)	N/A
Aspiration hazard	N/A

12. ENVIRONMENTAL IMPACT

A. Ecotoxicity	
pisces	N/A
shellfish	N/A
birds	N/A
B. Persistence and degradability	
persistence	N/A
degradability	N/A
C. Bioaccumulative	
concentrating	N/A
Biodegradable	N/A
D. Soil Mobility	N/A
E. Other adverse effects	N/A

13. DISPOSAL PRECAUTIONS

A. Disposal method	If specified in the Waste Control Act, discard the contents and containers in accordance with the regulations
B. Disposal precautions	Discard the container of contents (as specified in the relevant laws and regulations)

14. INFORMATION REQUIRED FOR TRANSPORTATION

A. UN No.	N/A
B. Proper shipping name	N/A
C. Transport hazard class	N/A
D. Container class	N/A
E. Marine pollutants	N/A
F. Special safety measures that the user needs or needs to know about transportation or means of transportation	
Emergency measures in case of a fire	N/A
Emergency measures in case of leakage	N/A

15. LEGAL REGULATORY STATUS

A. Regulation under the Occupational Safety and Health Act.	N/A
B. Regulation under the Chemical Substances Control Act.	N/A
C. Regulations under the Dangerous Goods Safety Management Act.	N/A
D. Regulation under the Wastes Control Act.	N/A
E. Other regulations under domestic and foreign laws.	
Domestic regulation	N/A
Foreign regulation	N/A

This product is classified as risk free under European Regulations 67/548/EC and 1999/45/EC.

16. OTHER INFORMATION

We are not responsible for the result if the consumer uses this product for any purpose other than the intended purpose. The consumer is responsible for ensuring that all regulations concerning the protection of people and the environment are complied with in the use storage and handling of the product.

Reference.

Water, sterile, Nuclease free(BioSolution, INC.), Real-Time RT-PCR mixture (iNtRON Biotechnology, Inc.)