

Material Safety Data Sheet

According to EC directive 2001/58/EC

Reviewed on 2021. 6. 16

1. Information about chemical products and companies

Product Information

Product Name : **RealMOD™ Probe M² 2x qPCR mix (with UDG)**
Cat. No. : **25360.100 / 25360.500 / 25360.1000**
Purpose : The DNA nucleic acid extracted from the sample can be applied to the test as a template.
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 by using the probe-type real-time PCR. RUO (Research Use Only)
Restriction :
Manufacturer : **INtRON Biotechnology, Inc.**
Tel : 031-739-5086
Fax : 031-739-5072
Department 031-739-5066
Emergency call 031-739-5071

2. Composition/information on ingredients

- RealMOD™ Probe M² 2x qPCR mix (with UDG)
 - Appearance: Transparent liquid reagent
 - Labeling: RealMOD™ Probe M² 2x qPCR mix (with UDG)
 - ingredient

Ingredient name	CAS. No.	Component
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%
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 and danger

A. Hazard classification

RealMOD™ Probe M² 2x qPCR mix (with UDG) N/A

B. Warning label items including precautionary statements

pictograph	N/A
signal word	N/A
Hazard statements	N/A
Precautionary statements	N/A

C. Other hazards not included in the hazard classification criteria(NFPA)

Health	N/A
Fire	N/A
Reactivity	N/A

Hazard recommendations to people or the environment

This product is classified as non-hazardous according to European Directives 67/548/EC and 1999/45/EC.

Possible health effects

Eyes: May cause eye irritation.

Skin : Contact may be irritating to skin.

Inhalation: No toxicity expected from inhalation.

4. First Aid Instructions

- | | |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A. when it gets into your eyes | In case of contact with material, immediately flush eyes with running water for minutes.
Get medical attention immediately |
| B. when in contact with the skin | In case of contact with material, immediately wash skin under running water for minutes.
Remove and isolate contaminated clothing and shoes
Wash clothes and shoes thoroughly before reuse.
Get medical attention immediately
Get urgent medical attention
Move to fresh air. |
| C. when inhaled | If not breathing, give artificial respiration.
If breathing is difficult, give oxygen
Never give anything by mouth to an unconscious person
Get medical attention immediately |
| D. when eaten | Ensure that medical personnel are aware of the substance and take protective
Do not administer adrenaline drugs. |
| E. Other doctor's notes | |

5. How to deal with explosions and fires

- | | |
|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A. Suitable (unsuitable) extinguishing media | Small fire: dry sand, dry chemical, alcohol-resistant foam, water spray, general (appropriate extinguishing agent)
Large fire: water spray/mist, general foam (appropriate extinguishing agent)
High pressure water (unsuitable extinguishing agent)
May be ignited by heat, sparks or flames
Container may explode when heated |
| B. resulting from chemicals specific hazard | Some can burn but do not ignite easily
May generate irritating and toxic gas in case of fire
Inhalation of material may be harmful
Some liquids may produce vapors that cause dizziness and suffocation
Rescuers must wear appropriate protective equipment. |
| C. to be worn in case of fire
Protective equipment and precautions | Get out of the area and keep a safe distance to extinguish.
Be careful as it may be transported after being melted.
Dig a ditch for disposal of fire water and keep material from scattering.
Move container from fire area if it is not dangerous. |

6. What to do in case of a leak

	Eliminate all ignition sources
	Stop leak if not dangerous
A. to protect the human body	Be aware of substances and conditions to avoid
necessary actions and protective gear	Ventilate contaminated area
	Do not touch or walk on the exposure
	Avoid dust formation
	Do not enter the space without proper protective equipment such as an air res breathing mask until adequate air (oxygen concentration 18~23.5%) is secured.
B. to protect the environment	Prevent entry into waterways, sewers, basements and confined spaces.
Required action	
	In case of a small leak, flush the contaminated area with plenty of water.
	In case of small leakage, absorb with sand or non-combustible material and put in container
C. Methods of purification or removal	In case of large spills, make a ditch away from the liquid spill.
	With a clean shovel, place spillage in a clean, dry container with a loosely closed lid and remove container from spill area.
	In case of powder leakage, cover with plastic sheet to prevent diffusion and keep dry.

7. Handling and storage

	Be aware of substances and conditions to avoid
A. Precautions for safe handling	Wash thoroughly after handling
	Work with reference to engineering controls and personal protective equipment.
	Beware of high temperatures
	When a substance is spilled, be careful not to spill it as there is a risk of serious suffocation when standing in a closed place as the liquid evaporates rapidly and displaces air.
B. Precautions for safe handling	Be careful not to spill the substance as it may reach hazardous concentrations in the air.
	At 20°C, the substance may evaporate slowly or reach harmful concentrations, so keep it below 20°C and do not spray or spray (especially in the case of powder)
	Check your oxygen level before entering the area.
	Keep sealed.
C. Safe storage method	Store in a cool and dry place
	Be aware of substances and conditions to avoid

8. Exposure controls and personal protective equipment

A. exposure limits for chemicals;	
biological exposure limits, etc.	
domestic regulations	N/A
ACGIH REGULATIONS	N/A
biological exposure limit	N/A
B. Appropriate engineering controls	Process isolation, use local exhaust ventilation or keep air levels below exposure limits
C. personal protective equipment	
	Wear insulated gloves
respiratory protection	Wear a respirator certified by the Korea Occupational Safety and Health Agency suitable for the physical and chemical properties of the substance to be exposed.
eye protection	Use chemical protection glasses and face shield
hand protection	Install eyewash facilities and emergency shower facilities near the workplace.
body protection	Wear suitable chemical resistant gloves
	Wear suitable chemical resistant protective clothing

9. physicochemical properties

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

A. Appearance	
appearance	liquid
color	colorless
B. smell	odorless
C. odor threshold	N/A
D. pH	7.4~8.3(25℃)
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 limits	-/-
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

10. Stability and Reactivity

A. Chemical Stability and Harmful possibility of reaction	Container may explode when heated Some can burn but do 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. likely to be exposed to information about	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
Notice of Ministry of Employment and Labor	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 Dispose of contents and containers in accordance with regulations if specified in the Waste Management Act.
- B. Disposal Dispose of contents container (according to relevant regulations).
precautions

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 users need to know or need to know about transport or means of transport | N/A |
| Emergency measures in case of fire | N/A |
| Emergency measures in case of spillage | N/A |

15. Legal Regulatory Status

- | | |
|---------------------------------------------------------------------|-----|
| A. Regulations under the Occupational Safety and Health Act | N/A |
| B. Regulations under the Chemicals Control Act | N/A |
| C. Regulations under the Dangerous Substances Safety Management Act | N/A |
| D. Regulations by the Waste Management Act | N/A |
| E. Regulations under other domestic and foreign laws | N/A |
| domestic regulation | N/A |
| foreign regulation | N/A |

This product is classified as non-hazardous according to European Directives 67/548/EC and 1999/45/EC.

16. Other notes

We are not responsible for the results 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社), Real-Time PCR mixture (iNtRON Biotechnology, Inc.)