

# Material Safety Data Sheet

According to EC directive 2001/58/EC

Reviewed on 2023-02-07

## 1. Information of chemical product and company

### Product Information

Name : LIIIF® ASFV Real-time PCR Kit

Code : IP14001

General use :

This product is a reagent that qualitatively detects ASFV from serum (including whole blood) and internal organ tissues of suspected ASFV infection by real-time PCR (Real-time Polymerase chain reaction).

Restriction on use : RUO (Research Use Only)

Manufacturer : INtRON Biotechnology, Inc.

Tel : 031-739-5678

Fax : 031-739-5072

Department : 031-739-5066

Emergency call : 031-739-5678

## 2. Composition/Information on ingredients

- 2X PCR mix

- Characteristics : Transparent liquid reagent

- Labelling : 2X PCR mix

- Composition

Chemical name	CAS.No.	Content (%)
Tris	77-86-1	< 2%
KCl	7447-40-7	< 0.8%
MgCl <sub>2</sub>	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%
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%

- ASFV Detection Solution

- Characteristics : A pale pink liquid reagent
- Labelling : ASFV Detection solution
- Composition

Chemical name	CAS.No.	Content (%)
ASFV (p72 gene) forward primer	N/A	< 0.01%
ASFV (p72 gene) reverse primer	N/A	< 0.01%
ASFV (p72 gene) probe (FAM)	N/A	< 0.01%
IPC forward primer	N/A	< 0.01%
IPC reverse primer	N/A	< 0.01%
IPC probe (HEX)	N/A	< 0.01%

- Positive control

- Characteristics : Transparent liquid reagent
- Labelling : Positive control
- Composition

Chemical name	CAS.No.	Content (%)
Target synthetic DNA	N/A	< 0.001%
Tris	77-86-1	< 0.2%
EDTA	60-00-4	< 0.01%

- DNase / RNase free Water

- Characteristics : Transparent liquid reagent
- Labelling : DNase / RNase free water

### 3. Hazard identification

#### A. Hazard and risk classification

2X PCR mix	N/A
ASFV detection solution	N/A
Positive control	N/A
DNase / RNase free Water	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 measure	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 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 contact with a substance<br>Take immediate medical measures   |
| B. Skin contact       | Wash your skin under running water for at least 20 minutes immediately upon<br>Remove contaminated clothes and shoes and isolate them<br>Wash clothes and shoes completely before reuse<br>Take immediate medical measures<br>Take immediate medical measures |
| C. Inhalation contact | Move to a place with fresh air<br>If you don't breathe, do artificial respiration<br>If you can't breathe well, supply oxygen   |
| D. Ingestion contact  | Don't feed anything to unconscious people<br>Take immediate medical measures  |
| E. Other precautions  | Have medical personnel know about the substance and take protective measure<br>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)<br>Large fire : water spary/mist, general form (suitable extinguishing agent)<br>High pressure water (unsuitable extinguishing agent)<br>May be ignited by heat, sparks or flames<br>Container may explode when heated |
| B. Specific hazard arising from the chemical  | Some can burn but it could not ignite easily<br>In case of fire, it can cause irritating and toxic gases<br>Inhalation of substances can be harmful<br>Some liquids can cause dizziness and suffocation<br>The rescuer should wear proper protective gear<br>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<br>Dig a ditch to dispose of the digestive water and trap it so that the substance doesn't scatter<br>If it's not dangerous, move the container from the fire area  |

## 6. Accidental release measure

- |  |   |
|--|---|
| A. Personal precautions,<br>protective equipment and<br>emergency procedures | Remove all ignition sources<br>If it's not dangerous, stop leaking<br>Pay attention to substances and conditions to avoid<br>Ventilate contaminated areas<br>Don't touch or walk around the exposed area<br>Prevent dust formation<br>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 |
| B. Environmental precautions   | Prevent inflow into waterways, sewers, cellars, and confined spaces<br>In case of small leakage, wash the contaminated area with a large amount of water<br>In case of small leakage, absorb it with sand and non-combustible substances and put it in a container  |
| C. Methods and materials for<br>containment and cleaning up                  | If you leak a lot, make a ditch far away from liquid leakage<br>Place the leakage in a clean, dry container with a clean shovel, close it loosely, and move the container from the leak area<br>Cover it with a plastic sheet to prevent diffusion and keep it dry in case of powder leakage  |

## 7. Handling and storage

- |                                  |   |
|----------------------------------|---|
| A. Precautions for safe handling | Pay attention to substances and conditions to avoid<br>Wash thoroughly after handling it<br>Please refer to engineering care and personal protective equipment<br>Be careful of the high temperature<br>Be careful not to leak when standing in an enclosed place as liquid evaporates rapidly and replaces air                                   |
| B. Precautions for safe handling | Be careful not to leak any substances because they can reach harmful concentrations in the air<br>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)<br>Check the oxygen concentration before entering the place<br>Keep it sealed |
| C. Safe storage method           | Store in a cool, dry place<br>Pay attention to substances and conditions to avoid   |

## 8. Exposure controls/personal protection

A. Exposure limits for chemicals	
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 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. Physical and chemical properties

<b>1. 2X PCR Mix</b> <b>2. ASFV detection solution</b> <b>3. Positive control</b> <b>4. DNase/RNase free water</b>	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 Weigh	N/A	

## 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	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社), 2x PCR mix (iNtRON Biotechnology, Inc.) MSDS