Material Safety Data Sheet



Revision Date

20.05.2020

1. IDENTIFICATION OF TH	E SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING
Product name	Hind III
Product code	FG-HindIII
Recommended use of the chemical and restrictio	ns on use
Recommended use	For research use only
Restrictions on use	For research use only
Details of the supplier	
Company name	Nippon Genetics Europe
Address	Mariaweilerstraße 28-30, 52349 Dueren, Germany
Emergence contact number	(+49)2421554960
2. HAZARDS IDENTIFICATION	
Classification of Hazards and dangerousness	No relevant classification
Warning article including prevention methods	
Pictorial symbol	No information available
Category	No information available
Hazards and dangerousness	No information available
Prevention methods	
Prevention	No information available
Action	No information available
Store	No information available
Discard	No information available
Other hazards and dangerousness (NFPA) not included in classification	
Health	1
Fire	1

3. COMPOSITION/INFORMATION ON INGREDIENTS			
Material name	Usual name	CAS No.	Amount (%)
Glycerin	Usual name GLYCEROL	CAS No. 56-81-5	Amount (%) 40 ~ 60

	4. FIRST AID MEASURES
Eye contact	Take medical action immediately.
	Immediately rinse skin and eyes thoroughly with plenty of running
	water for at least 20 minutes.
Skin contact	Take medical action immediately.
	Immediately rinse skin and eyes thoroughly with plenty of running water for at least 20 minutes.
	Remove contaminated clothes and shoes and isolate contaminated area
	Completely wash clothes and shoes before reuse
Inhalation	Remove to fresh air
	CPR when there is no breathing
	Provide Oxygen when breathing is difficult
	Take medical action immediately.
Ingestion	Do not provide any food for unconscious person
Note to physicians	Take protective action according to the material
	Do not inject adrenalin
Ę	5. FIRE FIGHTING MEASURES
Proper (improper) fire extinguishing agents	Small fire: dry sand, dry chemical, alcohol-resistant foam, water spray, regular foar CO ₂ (suitable extinguishing agent)
	Large fires: water spray / mist, regular foam (suitable extinguishing agent)
	High pressure water (improper extinguishing agent)
Specific hazards from chemical compounds	Can be ignited by heat, spark, flame
	Container may explode on heating
	Some can ride, but not easily ignite
	May cause irritation and poisonous gas in case of fire
	Inhalation of the substance may be harmful
	Some fluids may cause dizziness, suffocation-inducing vapors
Protective equipment and precautions for fire fighting	
Glycerin	No information available
	CIDENTAL RELEASE MEASURES
Personal precautions, protective equipment and emergency procedures	Micro particles can ignite fire or explosion therefore remove all the sources of fire.
	Stop leak if it is not dangerous
	Give attention to materials and conditions that should be avoid
	Do not enter the space without proper respirator or respirator until proper air (oxyge
	concentration $18 \sim 23.5\%$) is available.
Environmental precautions	Prevent entry into waterways, sewers, basements, and confined spaces.
Containment and cleaning up	In case of small leakage, flush contaminated area with large amount of water
	In case of small leakage, absorb with sand and non-combustible material and plac
	in container.
	In case of large leakage, make a ditch away from liquid spills
	Put spills into a clean, dry container with clean shovel, loosely closed, then transfe container from leak area
	In case of powder leakage, cover with plastic sheet to prevent spread and keep dry

7. HANDLING AND STORAGE	
Precautions for safe handling	Note the substances and conditions to avoid
	Wash thoroughly after handling
	Note the high temperature
	In case of material leakage, reduce the oxygen concentration in the air and cause suffocation in an enclosed space, so be careful not to spill Check the oxygen concentration before entering the place because there is a risk of loss of consciousness or death due to oxygen deficiency at high concentration in the air Keep this temperature below 20°C because this material evaporates slowly and reaches hazardous concentrations.
	Do not spray because it will evaporate faster if sprayed
Conditions for safe storage	Keep it tightly closed
	Store in a cool, dry place

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure standard of chemical compound, biologica	al exposure standard
Domestic regulations	ai exposure standard
Glycerin	
2	TWA - 10 mg/m ³
ACGIH regulation	
Glycerin	TWA - 10 mg/m ³
Biological release regulation	
Glycerin	No information applicable
ndividual protection equipment	
Respiratory protection	
	Use respiratory protection equipment certified by Korea occupational safety and health agency in a release of gas/liquid according to their chemical physical properties.
	Use proper filter or half-circled respiratory protection cartridge equipment if the concentration of release material is lower than 100mg/m ³
	Use proper filter or loose-fitting respiratory protection cartridge equipment such as hood/helmet shape motor operated equipment or continuous flow protection mask is the concentration of release material is lower than 250mg/m ³
	Use proper filter or full face cartridge or motor operated half-circled equipment or half circled continuous flow air supply respiratory protection equipment if the concentration of release material is lower than 500mg/m ³
	Use proper filter or full faced respiratory protection cartridge equipment or hood/helmet type, pressurized mask if the concentration of release material is lowe than 10000mg/m ³
	Use proper filter or auto air supply (SCBA) equipment or pressurized auto air supply (SCBA) respiratory protection equipment if the concentration of release material is lower than 100000mg/m ³
Eye protection	Use chemical protection glasses and safety glasses
	Install eyewash and emergency shower near work area
Hand protection	Wear suitable chemical resistant gloves
Body protection	Wear suitable chemical resistant clothing

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
State	Liquid
Color	Dark color to yellow color
Odor	Dull
Odor threshold	No information available
рН	Neutral
Melting point/freezing point	20 °C
Early boiling point and range	171 °C
Flashing point	160 °C ((c.c.))

Evaporation rate (coll offiquid) Liquid Maximum / minum evaporation or explosion ago 19/27 % Seem pressure 0025 mHg (cf 50 °) Subbility Light (cf 50 °) Subbility Light (cf 50 °) Subbility Light (cf 50 °) Specific gravity 3.1 ((ai=1)) Specific gravity 126.13 ((water 1)) Sectific for temperature 200 ° Diassemble temperature 200 ° Diassemble temperature 200 ° Molecular weight 84.6 ° (ar 25 °) Diassemble temperature 200 ° Uscotify 96.4 ° (ar 25 °) Molecular weight No Information available Station to avoid No Information available Glycerin No Information available Molecular veight No Information available Material produce by degradation Information available Chardisch tabulity out to sold second Can be beached by suction and secting Light available Material produce by degradation Information available Chardisch to body by suction No Information available		
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Occupational safety and health acts Glycerin No information available Employment announcement	Glycerin	No information available
Glycerin No information available Employment announcement No information available	Carcinogenic	
Employment announcement	Occupational safety and health acts	
	Glycerin	No information available
Glycerin No information available		
	Glycerin	No information available

IARC		
Glycerin	No information available	
OSHA		
Glycerin	No information available	
ACGIH		
Glycerin	No information available	
NTP		
Glycerin	No information available	
EU CLP		
Glycerin	No information available	
Germ cell mutagenicity		
Glycerin	Many color mammal red blood cell/negative	
Reproduction toxicity test		
Glycerin	No information available	
Special target poison (1 time exposer)		
Glycerin	No information available	
Special target poison (long exposer)		
Glycerin	rat(inhale):1-4mg/l	
	epiglottis epithelium	
Absorption injurious		
Glycerin	No information available	
12. ECOLOGICAL INFORMATION		

Ecotoxicity

Fish

Glycerin

Crustacean

Glycerin

Algae

Glycerin Residual fungicide and resolvability Residual fungicide Glycerin Resolvability

Glycerin

Life enrichment

Enrichment

Glycerin

Biodegradability

Glycerin

Soil

Glycerin

Other harmful influences

Glycerin

LC50 5000 mg/l 24 hr Carassius auratus

EC50 > 10000 mg/ℓ 24 hr Daphnia magna (Daphnia magna EC50(24HR) 10000mg/L(US EPA ECOTOX); Daphnia magna EC50(24HR) >10000 mg/L (EU IUCLID))

(LC50(96hr) 77712.039 mg/L)

No information available

No information available

No expected life enrichment

63 (%) 14 day Fast biodegradability (OECD SIDS), 93% biodegradability in 30 days (OECD TG 301D) (IUCLID))

No information available

Environmental summary : No information on toxicity on aquatic organisms

13. DI	SPOSAL CONSIDERATIONS
Waste treatment method	
Glycerin	No information available
Disposal considerations	
Glycerin	Dispose container and content according to the waster control act
14. T	RANSPORT INFORMATION
ΙΑΤΑ	
Propriety shipping name	
Glycerin	No dangerous good in sense of these transport regulations
Hazard class	
Glycerin	No information available
Subsidiary class	
Glycerin	No information available
Packing group	
Glycerin	No information available
UN-No	
Glycerin	No information available
Environmental hazards	
Glycerin	No information available
15. RI	EGULATORY INFORMATION
Regulations of occupational safety and health act	No information available
Glycerin	Exposure standard materials
Regulations of toxic chemicals regulation act	
Glycerin	No information available
Regulations of safety control of dangerous substances act	
Glycerin	4th class The third kind Petroleum(Receptivity) 4000 L
Regulations of waste control act	
Glycerin	Designated waste
Regulations of other domestic and international act	
Domestic act	
Persistent organic pollutants control act	
Glycerin	No information applicable
Foreign act	
American supervision information	
Glycerin CERCLA	No information applicable
Glycerin EPCRA 302	No information applicable
Glycerin EPCRA 304	No information applicable
Glycerin EPCRA 313	No information applicable
Glycerin	No information applicable
American supervision information (Rotterdam agreement material)	
Glycerin	No information applicable
American supervision information	
(Stockholm agreement material)	
Glycerin American supervision information (Montreal protocol material)	No information applicable
Glycerin	No information applicable

EU Classification information (Confirmed classification results)

Glycerin EU Classification information (Danger expression)

Glycerin

EU Classification information (Safety expression)

Glycerin

No information applicable

No information applicable

16. OTHER INFORMATION

Source of material IUCLID (oral) SIDS (oral) SIDS (skin corrosive or irritant) SIDS (severe eye damage or irritation) NLM (Germ Cell Mutagenesis) IUCLID (specific target organ toxicity (repeated exposure)) OECD SIDS (fish) EU IUCLID (Crustaceans) OECD SIDS (Crustaceans) US EPA ECOTOX (Crustaceans) ECOSAR (agar) OECD SIDS (Enrichment) IUCLDE (biodegradable) OECD SIDS (biodegradable) OECD TG 301C (biodegradable) OEDC TG 301D (biodegradable)

The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since Nippon Genetics Europe cannot control the actual methods, volumes, or conditions of use, the company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein.

Questions about the information found on this MSDS should be directed to info@nippongenetics.de.

End of Material Safety Data Sheet