GHS
Safety Data Sheet

Prepared Date 27 Mar. 2018

Section 1 - Chemical Product and Company Identification

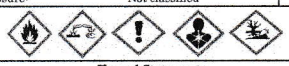
Product Name: NOP-F220
Product Use:
Supplier:

Section 2 - Hazard Identification

GHS Classification (Based on Japan regulations)

Health		Environmental		Physical	
Acute Toxicity:	Category 4	Acute Toxicity:	Category 1	Flammable Liquid	Category 2
Skin Corrosive :	Category 1A	Chronic Toxicity:	Category 1		
Skin Sensitization:	Not classified				
Serious Eye Damage:	Category 1				
Aspiration Hazard:	Category 1				
Single exposure:	Not classified				
Repeated exposure:	Not classified				

GHS Label:



Signal Word:
Danger

Hazard Statements	Precautionary Statements
·Highly flammable liquid and vapour.	·Keep away from heat/spark/open flames/hot surfaces - Not smoking
·Harmful if swallowed.	·Avoid breathing dust/fume/gas/mist/vapors/spray
·May be fatal if swallowed and enters airways.	·Wear protective gloves/protective clothing/eye protection/face protection
·Causes severe skin burns and eye damage.	·IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
·Harmful if inhaled.	·IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
·Very toxic to aquatic life.	·IF IN EYES: Rinse cautiously with water for several minutes.
·Very toxic to aquatic life with long lasting effects.	Remove contact lenses, if present and easy to do. Continue rinsing.
	·Store in a well-ventilated place. Keep cool.
	·Dispose of contents/container in accordance with local regulation

Section 3 - Composition/Information on Ingredients

	CAS#	Concentration % by weight
Isononane(Nonane isomer mixture)	34464-40-9 68551-15-5	>75.0
Organic polysilazane compound	Trade secret	>=20.0

Section 4 - First Aid Measure

Contact with eyes: Flush eyes immediately with plenty of water for 15minutes and seek medical advice immediately.
Skin Contact: Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. If irritation develops, seek medical advice.
Inhalation: Remove to fresh air. If breathing is stopped, give artificial respiration. If breathing is difficult, give oxygen. Seek medical advice.
Ingestion: Rinse mouth with water. Give warm water to dilute. Do not induce vomiting under unconscious. Seek medical advice immediately.

Section 5 - Firefighting Measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical(Type B,C), alcohol resistant foam, inert gas
Unsuitable Extinguishing Media: Water
Special protective equipment for fire-fighters: Wear full protective suit. In case of combustion use a suitable breathing apparatus.
Specific Methods of Fire-fighters: Avoid breathing vapors and keep upwind.
Remove product from areas of fire, or otherwise cool containers with water in oder to avoid pressure being build up due to heat.

Section 6 - Accidental release Measures

Personal Precautions: Ventilate the area and prevent access to unauthorized people.
Wear suitable personal protective equipment.
Environmental Precautions: Do not allow entry to drains, water courses or soil.
Prevent spreading by use of suitable barriers.
Methods for Cleaning up: Wearing appropriate personal protective equipment, contain spill, ventilate area of spill or leak.
Collect onto inert absorbent. Place in suitable container.

Section 7 - Handling and Storage

Handling: Avoid breathing of vapor, avoid contact with eyes, skin and clothing.
Keep away from ignition sources, use only electrically grounded handling equipment and ensure adequate ventilation/fume exhaust hoods.
Do not eat, drink or smoke while handling.
Storage: Store in ventilated room and away from direct sunlight.
Keep only in the original container. Keep container tightly closed in a cool, well-ventilated place.
Store according to the local statutes, regulations, etc. that apply.

Section 8 - Exposure Controls /Personal Protection

Exposure Limits (Decomposition product):
Combustion Product : CO, CO2, NOx, etc,.
Information

	ACGIH TLV-TWA	ACGIH TLV-STEL
CO	25 ppm	35 ppm
CO_2	5000 ppm	30000 ppm
NO_2 ※	3 ppm	5 ppm

※Example as NOx

Engineering measures: When practicable the material should be handled in enclosed processes, a properly operating laboratory hood or with other effective local exhaust ventilation.
Safety showe and eyewash must be in work area.
Personal Protective Equipment (PPE):
Respiratory Protection: Use respiratory protection in case of insufficient exhaust ventilation or prolonged exposure.
Hand protection: Gloves(solvent-proof)
Eye Protection: Depending on the risk, wear sufficient eye protection(safety glassess with side protection or goggles, and if necessary, face shield.)
Skin Protection: Clothing suitable to provent skin contact. Solvent-resistant prptective clothing.

Section 9 - Physical and Chemical Properties

Form:		liquid
Appearance:		Colorless
Odor:		ammonia-like
pH:		Not applicable
Melting/Freezing Point:		No data
Boiling Point:		No data
Decomposition Temperature:		No data
Flash Point:		23.1℃ (Method:Closed type)
Flammability Limits:	LEL:	No data
	UEL:	No data
Vapor Pressure:		No data
Vapor Density (Air = 1) :		No data
Specific Gravity:		No data
Solubility:		Form two layers
Partition Coefficient n-octanol/water:		No data
Auto-ignition Temperature:		No data

Section 10 - Chemical Stability and Reactivity Information

Conditions to avoid: Avoid contact with strong oxidizing agents.
Contact with strong acids and bases may cause hydrolysis of prpduct.
Avoid contact with water and alcohols.
Keep away from heat, sparks, open flame and other ignition sources.

Hazardous Decomposition Products: Thermal decomposition may generate carbon dioxide, carbon monoxide, and oxides of nitrogen. Hydrogen, Ammonia

Hazardous reactions This product is considered a stable material under normal and anticipated storage and handling conditions.

Section 11- Toxicological Information

Product information

	Route	Animal	
Acute toxicity	Oral	rat	>300-2,000mg/kg
Skin irritancy/corrosivity	-	rabbit	Corrosive
Serious eye damage/ eye irritation	-	-	Risk of serious damage to eyes

Component information

isononane(Nonane isomer mixture)	Route	Animal	
Acute toxicity	Oral	rat	>5000mg/kg

Organic polysilazane compound	Route	Animal	
Acute toxicity	Oral	rat	LD50>300-2,000mg/kg
Skin corrosion/irritation	-	rabbit	Corrosive
Serious eye damage/ eye irritation	-	-	Risk of serious damage to eyes

Section 12 - Ecological Information

Product information

	Method	Water creature	
Ecotoxicity	OECD203	zebra fish	57.1mg/l,96h,Danio resio

Component information

isononane(Nonane isomer mixture)	Method	Water creature	
Ecotoxicity	OECD203	Rainbow trout	LC50: >0.096mg/l, 96h
	OECD202	Otomizako	EC50: 0.15mg/l, 48h
	OECD201	Algae	EC50: >0.030mg/l, 72h
	OECD201	Algae	NOEC: 0.030mg/l, 72h
Residuality/degrability	Partly decomposed(72%) in the 28-day decomposition test by persistent OECD 301		

Organic polysilazane compound	Method	Water creature	
Ecotoxicity	OECD203	zebra fish	57.1mg/l,96h,Danio resio

Section 13 - Disposal Considerations

Waste form residues Do not dump this material into sewers, on the ground or into any body of water.(Comply with your local regulations.)

Contaminated Packaging When discarding an empty container, the contaminated to the inside is removed completely and it discards according to your local regulations.

Section 14 - Transportation Information

IATA	
UN number	2924
Description of the goods	FLAMMABLE LIQUID, CRROSIVE, N.O.S (Organic polysilazane compound)
Class	3
Packing group	II
Labels	3(8)
Environmentally hazardous	no

IMDG	
UN number	2924
Description of the goods	FLAMMABLE LIQUID, CRROSIVE, N.O.S (Organic polysilazane compound)
Class	3
Packing group	II
Labels	3(8)
EmS Number 1	F-E
EmS Number 2	S-C
Marine Pollutant:	no

Section 15 - Regulatory Information

The Chemical Substances Control Law	Not restricted
Industrial Safety and Health Law	Dengerous or harmful sequiring notificatiubstance on, Article 57 :isononane(Nonane isomer mixture)
Poisonous and Deleterious Substances Control Law	Not restricted
Fire Service Law	Flammable liquids Type2 Petroleums Hazardous rank III, Water insoluble liquid, Designated Quantity, 1000litre
Pollutant Release and Transfer Register(PRTR Law)	Not restricted

Section 16 - Other Information

Version : 1.0

Validated on 2018/03/13.

The information herein is believed to be correct, but does not claimed to be all inclusive and should be used only as a guide. Neither the above named supplier nor any of its subsidiaries assumers any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All chemicals must be handled with the recognition that their chemicals, physiological, toxicological, and hazardous properties have not been fully investigated or determined. All chemicals should be handled only by individuals who are familiar with their potential hazards and who have been fully trained in proper safety and chemical handling procedures. Although certain hazards are described herein, we can not guarantee that these are the only hazards which exist. Our MSDS sheets are based only on data available at the time of shipping and are subject to change without notice as new information is obtained. Avoid long storage periods since the product is subject to degration with age and may become more dangerous or hazardous.
It is the responsibility of the user to request updated MSDS sheets for products that are stored for extended periods. Disposal of unused product must be undertaken by qualified personnel who are knowledgeable in all applicable regulations and follow all pertinent safety precautions including the use of appropriate protective equipment (e.g. protective goggles, protective clothing, breathing equipment, facial mask, fume hood). For proper handling and disposal, always comply with federal, state, and local regulations.