SECTION 1: Identification

1.1. GHS Product identifier

Product form : Substance

Trade name : FR (200 – 300) N

Type of product : Group,Polymers

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Recommended use : Mainly used in the manufacture of foams for thermal insulation and civil construction.

1.4. Supplier's details

VIDEOLAR - INNOVA S/A

BR 386, Rodovia Tabaí/Canoas, Km 419, Complexo Básico, Via do Contorno 212. Bairro: III Pólo Petroquímico

95853-000 Triunfo/RS - Brasil

T +55 (51) 3457-5800

1.5. Emergency phone number

Emergency number : +55 (51) 3457-5888

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Classification according to the United Nations GHS

Hazardous to the aquatic environment — Acute Hazard, Category 3 H402 On basis of test data

Hazardous to the aquatic environment — Chronic Hazard, Category 3 H412 Calculation method

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects : Harmful to aquatic life with long lasting effects,Harmful to aquatic life

2.2. GHS Label elements, including precautionary statements

Labelling according to the United Nations GHS

Hazard pictograms (GHS UN) :

Signal word (GHS UN) : -

Hazard statements (GHS UN) : H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements (GHS UN) : P273 - Avoid release to the environment.
P501 - Dispose of contents and container to a hazardous or special waste collection point, hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Name : FR (200 – 300) N

Substance identification codes: See section 1.1

Name	Product identifier	%	Classification according to the United Nations GHS
Polystyrene	(CAS-No.) 9003-53-6	> 90	Not classified
N-pentane	(CAS-No.) 109-66-0	< 6	Flam. liq. 2, H225 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 2, H411
Isopentane	(CAS-No.) 78-78-4	< 3	Flam. liq. 1, H224 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 2, H411
Flame retardant	(CAS-No.) 97416-84-7 or 1195978-93-8	< 2	Not classified

Full text of H-statements: see section 16

3.2. Mixtures
Not applicable

SECTION 4: First-aid measures
4.1. Description of necessary first-aid measures
First-aid measures general : Seek medical attention immediately.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Apply artificial respiration if breathing stopped. Administer oxygen if breathing is difficult. Seek medical advice immediately,show the product label where possible.

First-aid measures after skin contact : Gently wash with plenty of soap and water. Get medical advice if skin irritation persists.

First-aid measures after eye contact : Immediately rinse with water for a prolonged period while holding the eyelids wide open. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Do not induce vomiting. If swallowed, rinse mouth with water (only if the person is conscious). If vomiting occurs have person lean forward. Prevent aspiration of vomit. Get immediate medical advice/attention.

4.2. Most important symptoms/effects, acute and delayed
Symptoms/effects : Fuel solid. Dust may be irritating to eyes, mucous membranes and upper respiratory tract. Risk of thermal burns on contact with molten product.

Symptoms/effects after inhalation : Dust of the product, if present, may cause respiratory irritation after an excessive inhalation exposure. Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.

Symptoms/effects after skin contact : Exposure to dust may cause skin irritation.

Symptoms/effects after eye contact : Dust from this product may cause eye irritation.

Symptoms/effects after ingestion : None under normal conditions.

4.3. Indication of immediate medical attention and special treatment needed, if necessary
Treat symptomatically.

SECTION 5: Fire-fighting measures
5.1. Suitable extinguishing media
Suitable extinguishing media : Water spray, foam, chemical powder, carbon dioxide (CO_2).

Unsuitable extinguishing media : Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Specific hazards arising from the chemical
Fire hazard : When in combustion releases flammable vapors and gases, large amounts of heat, dense black smoke and toxic gases.

Explosion hazard : Combustible product. Avoid creating or spreading dust.

Reactivity in case of fire : The product is non-reactive under normal conditions of use, storage and transport.

5.3. Special protective actions for fire-fighters
Precautionary measures fire : Keep container tightly closed and away from heat, sparks and flame.

Firefighting instructions : Fight fire with normal precautions from a reasonable distance. Do not enter fire area without proper protective equipment, including respiratory protection.

Protection during firefighting : Use self-contained breathing apparatus and chemically protective clothing. Wear fire/flame resistant/retardant clothing. Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures
6.1. Personal precautions, protective equipment and emergency procedures
General measures : May be harmful to aquatic organisms, to flora, to soil organisms. Clean up any spills as soon as possible, using an absorbent material to collect it. Stop leak if safe to do so. Notify authorities if product enters sewers or public waters.

6.1.1. For non-emergency personnel
Protective equipment : Wear recommended personal protective equipment.

Emergency procedures : Evacuate area. Only qualified personnel equipped with suitable protective equipment may intervene. Notify fire brigade and environmental authorities.

6.1.2. For emergency responders
Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions
Avoid release to the environment. Prevent liquid from entering sewers, watercourses, underground or low areas. Harmful to aquatic life with long lasting effects. Do not allow product to spread into the environment.

6.3. Methods and materials for containment and cleaning up
For containment : Contain released product, pump into suitable containers. It is recommended to install a fire alarm and leak detection system in the storage and use areas of the product. Stop leak without risks if possible.

Methods for cleaning up	:	Take up mechanically (sweeping, shovelling) and collect in suitable and labelled container for disposal according to local legislation.
Other information	:	Dispose of materials or solid residues at an authorized site.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	:	Ensure good ventilation of the work station. Wear personal protective equipment. Keep only in original container. Do not handle until all safety precautions have been read and understood.
Hygiene measures	:	Always wash hands after handling the product. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product.
Additional hazards when processed	:	Not expected to present a significant hazard under anticipated conditions of normal use.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	:	Provide local exhaust or general room ventilation. All equipment used when handling the product must be grounded. Store in tightly closed, leak-proof containers.
Storage conditions	:	Store in a closed container. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Protect from moisture. Store in a well-ventilated place. Keep cool.
Storage area	:	Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight.
Incompatible products	:	Strong oxidizing agents. Aromatic hydrocarbons derived from benzene.
Packaging materials	:	Store always product in container of same material as original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

N-pentane (109-66-0)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH TWA (ppm)	1000 ppm

Isopentane (78-78-4)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH TWA (ppm)	1000 ppm

8.2. Appropriate engineering controls

Appropriate engineering controls	:	Ensure good ventilation of the work station. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Measure concentrations regularly, and at the time of any change occuring in conditions likely to have consequences on workers exposure.
Environmental exposure controls	:	Do not exceed the occupational exposure limits (OEL).

8.3. Individual protection measures, such as personal protective equipment (PPE)

Hand protection	:	Protective gloves.
Eye protection	:	Chemical goggles or face shield.
Skin and body protection	:	Wear suitable protective clothing. Wear safety footwear.
Respiratory protection	:	Wear appropriate mask. An approved organic vapour respirator/supplied air or self-contained breathing apparatus must be used when vapour concentration exceeds applicable exposure limits.

8.4. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	:	Solid
Appearance	:	Grains
Colour	:	White
Odour	:	Odourless
Odour threshold	:	Not available
Melting point	:	≥ 100 °C
Freezing point	:	Not applicable
Boiling point	:	Not available
Flammability (solid, gas)	:	Non flammable.

Explosive limits	:	Not applicable
Lower explosive limit (LEL)	:	Not applicable
Upper explosive limit (UEL)	:	Not applicable
Flash point	:	285 °C
Auto-ignition temperature	:	450 °C
Decomposition temperature	:	Not available
pH	:	Not available
pH solution	:	Not available
Viscosity, kinematic (calculated value) (40 °C)	:	Not applicable
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Vapour pressure	:	Not available
Vapour pressure at 50 °C	:	Not available
Density	:	≈ 600 kg/m³
Relative density	:	1.06 (water=1)
Relative vapour density at 20 °C	:	Not applicable
Solubility	:	Insoluble in water. Partially soluble in aromatic hydrocarbons and ketones.
Particle size	:	Not available
Particle size distribution	:	Not available
Particle shape	:	Not available
Particle aspect ratio	:	Not available
Particle specific surface area	:	Not available

9.2. Data relevant with regard to physical hazard classes (supplemental)

Other properties : Translucent.

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Can form explosive mixtures with air.

10.4. Conditions to avoid

High temperature. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

10.5. Incompatible materials

Strong oxidizing agents. Aromatic hydrocarbons derived from benzene.

10.6. Hazardous decomposition products

No hazardous decomposition products known at room temperature.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified

Acute toxicity (dermal) : Not classified

Acute toxicity (inhalation) : Not classified

FR (200 – 300) N	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rat	> 2000 mg/kg
LC50 inhalation rat (mg/l)	> 5 mg/l

N-pentane (109-66-0)	
LD50 oral rat	> 2000 mg/kg (OECD 401)
LC50 inhalation rat (mg/l)	> 25.3 mg/l air (4 h, OECD 403)

Isopentane (78-78-4)	
LD50 oral rat	> 5000 mg/kg (OECD 423)

LC50 inhalation rat (mg/l)	> 25.3 mg/l (OECD 403)

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Harmful to aquatic life. Harmful to aquatic life with long lasting effects.
Hazardous to the aquatic environment, short-term (acute) : Harmful to aquatic life.
Hazardous to the aquatic environment, long-term (chronic) : Harmful to aquatic life with long lasting effects.
Classification procedure (Hazardous to the aquatic environment, long-term (chronic)) : Calculation method

FR (200 – 300) N	
EC50 other aquatic organisms 1	100 mg/l (Sheepshead minnow)

N-pentane (109-66-0)	
LC50 fish 1	4.26 mg/l (OECD 203, 96 h, Oncorhynchus mykiss)
EC50 Daphnia 1	2.7 mg/l (48 h, Daphnia magna)
ErC50 (algae)	10.7 mg/l (OECD 201, 72 h, Scenedesmus sp.)

Isopentane (78-78-4)	
LC50 fish 1	4.26 mg/l (OECD 203, 96 h, Oncorhynchus mykiss)
EC50 Daphnia 1	2.3 mg/l (OECD 202, 48 h, Daphnia magna)
ErC50 (algae)	10.7 mg/l (OECD 201, 72 h, Selenastrum capricornutum)

12.2. Persistence and degradability

N-pentane (109-66-0)	
Persistence and degradability	Readily biodegradable in water.

Isopentane (78-78-4)	
Persistence and degradability	Readily biodegradable in water.
ThOD	3.55 g O_2/g substance

12.3. Bioaccumulative potential

N-pentane (109-66-0)	
BCF fish 1	171 (Pimephales promelas)
Partition coefficient n-octanol/water (Log Kow)	3.45 (25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4)

Isopentane (78-78-4)	
BCF fish 1	171 (Pimephales promelas)
Partition coefficient n-octanol/water (Log Kow)	4 (OECD 117, 25 °C)
Bioaccumulative potential	Potential for bioaccumulation (4 ≥ Log Kow ≤ 5)

12.4. Mobility in soil

N-pentane (109-66-0)	
Surface tension	0.013 N/m (25 °C)
Partition coefficient n-octanol/water (Log Koc)	2.9

Isopentane (78-78-4)	
Surface tension	0.01549 N/m (25 °C, 100 vol %)
Partition coefficient n-octanol/water (Log Koc)	2.9
Ecology - soil	Low potential for adsorption in soil.

12.5. Other adverse effects

Ozone : Not classified

Other adverse effects : No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Must follow special treatment according to local regulation.

Sewage disposal recommendations : Disposal must be done according to official regulations.

Product/Packaging disposal recommendations : Comply with applicable regulations for solid waste disposal. Disposal must be done according to official regulations.

Additional information : Do not re-use empty containers.

SECTION 14: Transport information

In accordance with IMDG / IATA / UN RTDG

14.1. UN number

UN-No.(UN RTDG) : 2211

UN-No. (IMDG) : 2211

UN-No. (IATA) : 2211

14.2. UN Proper Shipping Name

Proper Shipping Name (UN RTDG) : Polymeric beads, expandable

Proper Shipping Name (IMDG) : Polymeric beads, expandable

Proper Shipping Name (IATA) : Polymeric beads, expandable

14.3. Transport hazard class(es)

UN RTDG

Transport hazard class(es) (UN RTDG) : 9

Danger labels (UN RTDG) : 9

:

IMDG

Transport hazard class(es) (IMDG) : 9

Danger labels (IMDG) : 9

:

IATA

Transport hazard class(es) (IATA) : 9

Danger labels (IATA) : 9

:

14.4. Packing group

Packing group (UN RTDG)	:	III
Packing group (IMDG)	:	III
Packing group (IATA)	:	III

14.5. Environmental hazards

Dangerous for the environment	:	No
Marine pollutant	:	No
Other information	:	No supplementary information available

14.6. Special precautions for user

- UN RTDG

Transport regulations (UN)	:	Not subject
Special provisions (UN RTDG)	:	207
Limited quantities (UN RTDG)	:	5 kg
Excepted quantities (UN RTDG)	:	E1
Packing instruction (UN RTDG)	:	P002, IBC08
Special packing provisions (UN RTDG)	:	PP14, B3, B6
Portable tank and bulk container special instructions (UN RTDG)	:	T1
Portable tank and bulk container special provisions (UN RTDG)	:	TP33

- IMDG

Transport regulations (IMDG)	:	Not subject
Special provisions (IMDG)	:	382, 965
Packing instructions (IMDG)	:	P002
Special packing provisions (IMDG)	:	PP14
IBC packing instructions (IMDG)	:	IBC08
IBC special provisions (IMDG)	:	B3, B6
Tank instructions (IMDG)	:	T1
Tank special provisions (IMDG)	:	TP33
EmS-No. (Fire)	:	F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage)	:	S-I - SPILLAGE SCHEDULE India - FLAMMABLE SOLIDS (REPACKING POSSIBLE)
Stowage category (IMDG)	:	E
Properties and observations (IMDG)	:	A moulding material in bead or granular form consisting predominantly of polystyrene, poly(methyl methacrylate) or other polymeric material and containing 5% to 8% of a volatile hydrocarbon which is predominantly pentane. During storage a small proportion of this pentane is released to the atmosphere; this proportion increases at elevated temperatures.

- IATA

Transport regulations (IATA)	:	Not subject
PCA Excepted quantities (IATA)	:	E1
PCA Limited quantities (IATA)	:	Forbidden
PCA limited quantity max net quantity (IATA)	:	Forbidden
PCA packing instructions (IATA)	:	957
PCA max net quantity (IATA)	:	100kg
CAO packing instructions (IATA)	:	957
CAO max net quantity (IATA)	:	200kg
Special provisions (IATA)	:	A204
ERG code (IATA)	:	9L

14.7. Transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations specific for the product in question

Regulatory reference : IMDG code - International Maritime Dangerous Goods.

IATA - International Air Transport Association.

UN - Recommendations on the Transport of Dangerous Goods.

GHS - Globally Harmonized System of Classification and Labelling of Chemicals.

SECTION 16: Other information

Issue date	:	10/07/2020
Revision date	:	10/07/2020
Data sources	:	VIDEOLAR - INNOVA S/A. SDS - FR (200 – 300) N; July 4, 2018.

Abbreviations and acronyms : ACGIH - American Conference of Governement Industrial Hygienists, United States
OEL - Occupational exposure limit
ILO - International Labor Organization
TWA - Time Weighted average
GHS - Globally Harmonized System of Classification and Labeling of Chemicals
BCF - Bioconcentration factor
CAS - Chemical Abstract Service
EC50 - Median effective concentration
LC50 - Median lethal concentration
ErC50 - Concentration with 50 % impact on growth rate
LD50 - Median lethal dose

Full text of H-statements:	
H224	Extremely flammable liquid and vapour
H225	Highly flammable liquid and vapour
H304	May be fatal if swallowed and enters airways
H336	May cause drowsiness or dizziness
H401	Toxic to aquatic life
H402	Harmful to aquatic life
H411	Toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

SDS UN

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.