

SECTION 1: Identification

1.1. Product identifier

Product form : Substance
 Trade name : FR (200 – 300) N
 Type of product : Group, Polymer

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use : Civil construction and technical parts

1.3. Supplier's details

VIDEOLAR - INNOVA S/A
 BR 386, Rodovia Tabai/Canoas, Km 419, Complexo Básico, Via do Contorno 212. Bairro: III Pólo Petroquímico
 95853-000 Triunfo/RS - Brasil
 T +55 (51) 3457-5800

1.4. Emergency telephone number

Emergency number : (51) 3457-5888

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to the United Nations GHS

Reproductive toxicity, Category 2 H361
 Hazardous to the aquatic environment — Acute Hazard, Category 3 H402
 Hazardous to the aquatic environment — Chronic Hazard, Category 2 H411
 Full text of H statements : see section 16

2.2. Label elements

Labelling according to the United Nations GHS

Hazard pictograms (GHS-UN) :



Signal word (GHS-UN) : Warning
 Hazard statements (GHS-UN) : H361 - Suspected of damaging fertility or the unborn child.
 H402 - Harmful to aquatic life
 H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements (GHS-UN) : P201 - Obtain special instructions before use.
 P202 - Do not handle until all safety precautions have been read and understood.
 P273 - Avoid release to the environment.
 P280 - Wear protective gloves, protective clothing, eye protection.
 P308+P313 - IF exposed or concerned: Get medical advice/attention.
 P391 - Collect spillage.
 P405 - Store locked up.
 P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Name : FR (200 – 300) N

Name	Product identifier	%	Classification according to the United Nations GHS
Polystyrene	(CAS-No.) 9003-53-6	88	Not classified
N-pentane	(CAS-No.) 109-66-0	7	Flammable liquids, Category 2, H225 Specific target organ toxicity — Single exposure, Category 3, Narcosis, H336 Aspiration hazard, Category 1, H304 Hazardous to the aquatic environment — Acute Hazard, Category 2, H401 Hazardous to the aquatic environment — Chronic Hazard, Category 2, H411
Hexabromocyclododecane	(CAS-No.) 25637-99-4	3	Reproductive toxicity, Category 2, H361 Hazardous to the aquatic environment — Chronic Hazard, Category 1, H410

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according to the United Nations GHS (Rev. 5, 2013)

Name	Product identifier	%	Classification according to the United Nations GHS
Isopentane	(CAS-No.) 78-78-4	2	Flammable liquids, Category 1, H224 Acute toxicity (oral) Not classified Specific target organ toxicity — Single exposure, Category 3, Narcosis, H336 Aspiration hazard, Category 1, H304 Hazardous to the aquatic environment — Acute Hazard, Category 2, H401 Hazardous to the aquatic environment — Chronic Hazard, Category 2, H411

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of 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. Administer oxygen if breathing is difficult. Apply artificial respiration if breathing stopped. 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. Refer the victim to the medical service.
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 and effects, both 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 any immediate medical attention and special treatment needed

Treat symptomatically

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water spray, foam, chemical powder and 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. Special hazards arising from the substance or mixture

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

5.3. Advice for firefighters

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	: Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. 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.
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6.1.1. For non-emergency personnel

Protective equipment	: Wear recommended personal protective equipment.
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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

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

6.3. Methods and material for containment and cleaning up

For containment : Stop leak without risks if possible. 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.

Methods for cleaning up : Take up mechanically (sweeping, shovelling) and collect in suitable and labelled container for disposal according to local legislation.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wear personal protective equipment. Do not handle until all safety precautions have been read and understood. Ensure good ventilation of the work station.

Hygiene measures : 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 and 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

FR (200 – 300) N		
USA - ACGIH	ACGIH TWA (ppm)	600 ppm (40 h/week)
N-PENTANE (109-66-0)		
USA - ACGIH	ACGIH TWA (ppm)	1000 ppm
ISOPENTANE (78-78-4)		
USA - ACGIH	ACGIH TWA (ppm)	1000 ppm
POLYSTYRENE (9003-53-6)		
USA - ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³ (40 h/week; total dust)

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station. Measure concentrations regularly, and at the time of any change occurring in conditions likely to have consequences on workers exposure. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential 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.

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

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Grains
Colour	: White
Odour	: Odourless
Odour threshold	: No data available
pH	: No data available
pH solution	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Relative evaporation rate (ether=1)	: No data available
Melting point	: ≥ 100 °C
Freezing point	: No data available
Boiling point	: No data available
Flash point	: 345 - 360 °C
Auto-ignition temperature	: 450 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Vapour pressure at 50 °C	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: 1,06 (water=1)
Relative density of saturated gas/air mixture	: No data available
Density	: No data available
Relative gas density	: No data available
Solubility	: Insoluble in water. Partially soluble in aromatic hydrocarbons and ketones.
Log Pow	: No data available
Log Kow	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available
Lower explosive limit (LEL)	: No data available
Upper explosive limit (UEL)	: No data available

9.2. Other information

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 and 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

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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
LC50 inhalation rat (mg/l)	> 20 mg/l air 4 h
ISOPENTANE (78-78-4)	
LD50 oral rat	> 5000 mg/kg
LC50 inhalation rat (mg/l)	> 25,3 mg/l
POLYSTYRENE (9003-53-6)	
LC50 inhalation rat (mg/l)	120 mg/kg
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	: Suspected of damaging fertility or the unborn child.
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic toxicity	: Harmful to aquatic life.
Chronic aquatic toxicity	: Toxic to aquatic life with long lasting effects.
Classification procedure (Chronic aquatic toxicity)	: 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 (Oncorhynchus mykiss)
EC50 Daphnia 1	2,7 mg/l (Daphnia magna)
ErC50 (algae)	10,7 mg/l (Scenedesmus sp)
ISOPENTANE (78-78-4)	
LC50 fish 1	4,26 mg/l (Oncorhynchus mykiss)
EC50 Daphnia 1	2,3 mg/l (Daphnia magna)
ErC50 (algae)	10,7 mg/l (Selenastrum capricornutum)
HEXABROMOCYCLODODECANE (25637-99-4)	
LC50 fish 1	> 6,8 µg/l (Oncorhynchus mykiss)
LC50 fish 2	> 2,5 µg/l (Oncorhynchus mykiss)
EC50 Daphnia 1	> 6,8 µg/l (Daphnia magna)
EC50 Daphnia 2	> 1000 mg/kg dwt (Hyalella azteca)

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 - Theoretical oxygen demand	3,55 g O ₂ /g substance
HEXABROMOCYCLODODECANE (25637-99-4)	
Persistence and degradability	Biodegradable in the soil. Not readily biodegradable in water

12.3. Bioaccumulative potential

N-PENTANE (109-66-0)	
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4)
BCF fish 1	171 (Pimephales promelas)

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N-PENTANE (109-66-0)	
Log Pow	3,45 (25 °C)
Log Koc	2,9
ISOPENTANE (78-78-4)	
Bioaccumulative potential	4 ≥ Log Kow ≤ 5
BCF fish 1	171 (Pimephales promelas)
Log Pow	4 (25 °C)
Log Koc	2,9
HEXABROMOCYCLODODECANE (25637-99-4)	
Bioaccumulative potential	High potential for bioaccumulation (BCF > 5000)
BCF fish 1	8974 - 21940 (Oncorhynchus mykiss)
Log Pow	5,625 (25 °C)
Log Koc	> 5

12.4. Mobility in soil

N-PENTANE (109-66-0)	
Surface tension	0,015 N/m (25 °C, 100 %)
Ecology - soil	Low potential for adsorption in soil
ISOPENTANE (78-78-4)	
Surface tension	0,01549 N/m (25 °C, 100 vol %)
Ecology - soil	Low potential for adsorption in soil
HEXABROMOCYCLODODECANE (25637-99-4)	
Ecology - soil	Low potential for mobility 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

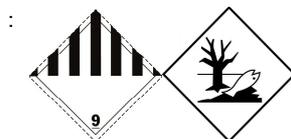
14.2. Proper Shipping Name

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

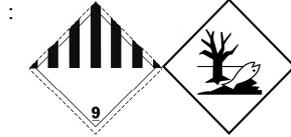
Transport hazard class(es) (IMDG) : 9

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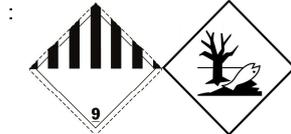
Danger labels (IMDG) : 9



IATA

Transport hazard class(es) (IATA) : 9

Hazard 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 : Yes

Marine pollutant : Yes

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

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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 Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

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
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SECTION 16: Other information

Data Source	: VIDEOLAR - INNOVA S/A.,- FISPQ – FR (200 – 300) N; May 18th, 2017.
Abbreviations and Acronyms	: ACGIH – American Conference of Government Industrial Hygienists, United States BCF – Bioconcentration Factor CAS – Chemical Abstracts Service LC50 – Lethal Concentration 50% EC50 – Effective Concentration 50% ErC50 – Effective concentration of reduction of growth rate 50% LD50 – Lethal Dose 50% GHS – Globally Harmonized System of Classification and Labeling of Chemicals USA – United States of America Kow – Partition coefficient in the octanol phase / aqueous phase OEL – Occupational exposure limit TWA – Time Weighted Average

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.
H361	Suspected of damaging fertility or the unborn child.
H401	Toxic to aquatic life
H402	Harmful to aquatic life
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic 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.