

# SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH) Article 31, Annex II as amended.

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name:** ARCEL<sup>®</sup> Resins - Colored

#### Other means of identification

**Synonyms, Trade Names:** Polyethylene/Styrenic Interpolymer, Expandable

**Names:**

**SDS number:** NOVA-1000

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

**Identified uses:** Plastics. Used primarily for the manufacture of foamed cushioning and packaging. Finished goods production is based on a variety of steam moulding processes.

**Uses advised against:** All uses other than the identified. Not suitable for food contact, medical or other applications.

### 1.3 Details of the supplier of the safety data sheet

#### Non EU Supplier

**Company Name:** NOVA Chemicals International (SA)

**Address:** Avenue de la Gare 14  
1700 Fribourg, Switzerland

**Telephone:** +41-26-426-5757

**SDS Information Email:** [msdsemail@novachem.com](mailto:msdsemail@novachem.com)

#### EU Distributor

**Company Name:** Pegasus Polymers NV

**Address:** Moerenstraat 85A  
B-2370 Arendonk, Belgium BE0808842121

**Telephone:** +32-27-140100

#### REACH Only Representative

**Company Name:** Intertek Deutschland GmbH

**Address:** Stangenstrasse 1  
Leinfelden-Echterdingen, Germany 70771

**Telephone:** +49-711-27311-0

**SDS Information Email:** [ies02.reach@intertek.com](mailto:ies02.reach@intertek.com)

**Email:**

### 1.4 Emergency telephone number:

+1-800-561-6682, +1-403-314-8767 (NOVA Chemicals) (24 hours)

**Europe:** +44 1235 239670 (NCEC) (24 Hours)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

The product has not been classified as hazardous according to the legislation in force.

**Classification according to Regulation (EC) No 1272/2008 as amended.**

Not classified

**2.2 Label Elements****Hazard Symbol:** No symbol**Signal Word:** None**Hazard Statement(s):** None**Precautionary Statements:****Prevention:** P210: Keep away from heat/sparks/open flames. - No smoking.  
P243: Take action to prevent static discharges.**Storage:** P411: Store at temperatures not exceeding 4 °C (40 °F).**Disposal:** P501: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.**Supplemental label information**

EUH018: In use may form flammable/explosive vapour-air mixture.

EUH210: Safety data sheet available on request.

EUH208: Contains (R)-p-mentha-1,8-diene; d-limonene. May produce an allergic reaction.

**2.3 Other hazards**

Product releases pentane, a flammable vapour. Maintain adequate ventilation during processing and use. High concentration of airborne powders or dust may form explosive mixture with air.

**SECTION 3: Composition/information on ingredients****3.2 Mixtures****General information:** No data available.

Chemical name	Concentration	CAS-No.	EC No.	REACH Registration No.	M-Factor:	Notes
isopentane; 2-methylbutane	4 - 12%	78-78-4	201-142-8	01-2119475602-38-0013	-	#
(R)-p-mentha-1,8-diene; d-limonene	0,1 - <1,0%	5989-27-5	227-813-5	01-2119529223-47-XXXX	-	#
Cristobalite	<0,3%	14464-46-1	238-455-4	In compliance**	-	#

\* All concentrations are percent by weight.

# This substance has workplace exposure limit(s).

**Classification**

Chemical name	Classification	Notes
isopentane; 2-methylbutane	Flam. Liq.: 1: H224; Asp. Tox.: 1: H304; STOT SE: 3: H336; Aquatic Chronic: 2: H411	-
(R)-p-mentha-1,8-diene; d-limonene	Flam. Liq.: 3: H226; Skin Irrit.: 2: H315; Skin Sens.: 1: H317; Aquatic Acute: 1: H400; Aquatic Chronic: 1: H410	Note C
Cristobalite	Skin Irrit.: 2: H315; Eye Irrit.: 2: H319; Carc.: 1A: H350	-

The full text for all H-statements is displayed in section 16.

CLP: Regulation No. 1272/2008.

**Additional Information:** \*\* Cristobalite is a component of the additive, Kieselguhr, soda ash flux-calcined (CAS# 68855-54-9, EC No. 272-489-0) which was registered under REACH by NOVA Chemicals' Only Representative. The cristobalite is inextricably bound or coated in the resin.

## SECTION 4: First Aid Measures

### 4.1 Description of first aid measures

- Inhalation:** Remove person to fresh air and keep comfortable for breathing. Loosen tight clothing such as a collar, tie, belt or waistband to facilitate breathing. Get medical attention if symptoms persist.
- Skin Contact:** In the event of direct contact with the body, wash and rinse directly contacted body part thoroughly with soap and water. Get medical attention if symptoms persist. If burned by contact with hot material, cool molten material adhering to skin as quickly as possible with water, and see a doctor for removal of adhering material and treatment of burn. Do not attempt to remove molten product, or molten product that has cooled, from skin without medical assistance.
- Eye contact:** Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if symptoms persist.
- Ingestion:** Seek medical advice. Material is not expected to be absorbed from the gastrointestinal tract so that induction of vomiting should not be necessary. Do NOT induce vomiting. Loosen tight clothing such as a collar, tie, belt or waistband.

**4.2 Most important symptoms and effects, both acute and delayed:** Irritating to eyes, respiratory system and skin. Gas or vapour is harmful on prolonged exposure or in high concentration. May cause nausea, headache, dizziness and intoxication. The cristobalite is inextricably bound or coated in the resin, which minimizes the likelihood of exposure.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Treatment:** For more detailed medical emergency support information, call +1-800-561-6682 or +1-403-314-8767 (24 hours, NOVA Chemicals Emergency Response). Treatment should be directed at the control of symptoms and the clinical condition of the patient. After adequate first aid, no further treatment is required unless symptoms reappear. The cristobalite is inextricably bound or coated in the resin, which minimizes the likelihood of exposure.

## SECTION 5: Firefighting Measures

**General Fire Hazards:** Releases vapours which are flammable when exposed to lit smoking materials (cigarettes), sparks, static electricity discharges or open flame. Supports combustion. Explosion risk. When heated to decomp emits acrid smoke and irritating fumes. Vapours are flammable and heavier than air. Vapours may travel across the ground and reach remote ignition sources, causing a flashback fire danger. Move containers from fire area if you can do so without risk.

### 5.1 Extinguishing media

**Suitable extinguishing media:**

Water spray, foam, dry powder or carbon dioxide. Use water spray to keep fire-exposed containers cool.

**Unsuitable extinguishing media:**

Do not scatter spilled material with high pressure water streams.

<b>5.2 Special hazards arising from the substance or mixture:</b>	Vapours are flammable and heavier than air. Vapours may travel across the ground and reach remote ignition sources, causing a flashback fire danger. Powdered material may form explosive dust-air mixtures. Risk of dust-air explosion is increased if flammable vapours are present. Take action to prevent static discharges.
<b>5.3 Advice for firefighters Special fire fighting procedures:</b>	Keep upwind. Keep unauthorised personnel away. Move container from fire area if it can be done without risk. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out. Use water spray to cool fire exposed surfaces and to protect personnel. ALWAYS stay away from container engulfed in fire. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply.
<b>Special protective equipment for firefighters:</b>	Emergency personnel should wear self-contained breathing apparatus. Avoid inhaling any smoke and combustion materials.

## SECTION 6: Accidental Release Measures

<b>6.1 Personal precautions, protective equipment and emergency procedures:</b>	Keep unauthorised personnel away. Evacuate to a safe location and contact the emergency services. Avoid standing or walking on spilled product - loose beads may cause a slipping hazard. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure that statutory and regulatory reporting requirements in the applicable jurisdiction are met.
<b>6.2 Environmental Precautions:</b>	Prevent entry into waterways, sewer, basements or confined areas.
<b>6.3 Methods and material for containment and cleaning up:</b>	<p>Small Spillages: In case of spills, beware of slippery floors and surfaces. Eliminate sources of ignition. Consider isolating spill or leak area immediately until ambient air sampling results indicate that the pentane vapour concentration is below the flammable range. Use appropriate non-sparking tools to put spilled solid in an appropriate waste disposal container.</p> <p>Large Spillages: Flammable vapours are released from spills. Use water spray to reduce vapours or divert vapour cloud drift. Eliminate sources of ignition. Consider isolating spill or leak area immediately until ambient air sampling results indicate that the pentane vapour concentration is below the flammable range. Prevent entry into waterways, sewer, basements or confined areas. If containers are damaged or suspected to have been damaged during transit, open the truck trailer door slowly and ventilate for 15 minutes. No smoking. Test the atmosphere to ensure the air is free of pentane before entering.</p>
<b>6.4 Reference to other sections:</b>	See Section 8 for recommended Personal Protective Equipment and see Section 13 for waste disposal considerations.

## SECTION 7: Handling and Storage:

<b>7.1 Precautions for safe handling:</b>	Handle in contained and properly designed equipment systems. Handle and process this product in a cool, well-ventilated place. Use only with adequate ventilation. Avoid ingestion. Avoid inhalation of the product. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground container and transfer equipment to eliminate static electric sparks. Keep handling areas free of loose beads and dust accumulation. Minimise dust generation and accumulation. Small
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amounts of fines or dust contained in granular resins may accumulate in handling systems. Prevent dust accumulation to minimise explosion hazard. Handling and processing operations should be conducted in accordance with 'best practices' (e.g. NFPA-654). In case of spills, beware of slippery floors and surfaces. Keep away from incompatible materials such as oxidising agents and organic materials. Risk of vapour concentration on the floor and in low-lying areas. After opening the container in a well-ventilated area, allow 15 minutes for accumulated pentane to dissipate. Partially opened containers represent a potentially serious hazard because the insides of the container permit a space for the pentane to accumulate.

Shipping containers, trucks and trailers should be ventilated for at least 15 minutes prior to unloading.

Surplus and unused beads may still contain residual pentane; handle using all safety measures as if fresh product. Empty containers may contain flammable residue.

### 7.2 Conditions for safe storage, including any incompatibilities:

If not processed upon receipt, store only in sealed original container below 4 °C (40 °F) in a dry, refrigerated area. Protect against direct sunlight. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not store near spark-producing equipment. Use explosion-proof [electrical/ventilating/lighting] equipment. Store according to applicable regulations and standards for flammable materials.

Have appropriate extinguishing capability in storage area (e.g. sprinkler system, portable fire extinguishers) and flammable gas detectors. Define the storage area and vehicle traffic routes clearly. Put up clear signs. Keep storage area clean. Only allow access to authorised persons.

Remove containers from storage area prior to opening. Vapours may be present in the headspace of closed containers. Containers should be opened only in well ventilated areas. All equipment used when handling the product must be grounded. Use non-sparking tools. Use a fall arrest system when working near open bulk containers. Re-seal previously opened container liners prior to placing partial containers into storage. Do not enter filled containers or attempt to walk over containers or spilled product due to risk of slipping and possible suffocation.

For additional transport, handling and storage information, refer to the NOVA Chemicals ARCEL® Resins Storage and Handling Safety Guide.

### 7.3 Specific end use(s):

Plastics. Used primarily for the manufacture of foamed cushioning and packaging. Finished goods production is based on a variety of steam moulding processes.

## SECTION 8: Exposure Controls/Personal Protection

### 8.1 Control Parameters

#### Occupational Exposure Limits

The cristobalite is inextricably bound or coated in the resin, which minimizes the likelihood of exposure.

Chemical name	Type	Exposure Limit Values	Source
isopentane; 2-methylbutane	TWA	1.000 ppm 3.000 mg/m3	EU. Indicative Occupational Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU (12 2009)
	IPRV	1.000 ppm 3.000 mg/m3	Lithuania. OELs. Limit Values for Chemical Substances, General Requirements (09 2011)
(R)-p-mentha-1,8-diene; d-limonene	IPRV	25 ppm 150 mg/m3	Lithuania. OELs. Limit Values for Chemical Substances, General Requirements (09 2011)
	TPRV	50 ppm 300 mg/m3	Lithuania. OELs. Limit Values for Chemical

			Substances, General Requirements (06 2018)
Cristobalite - Respirable fraction.	IPRV	0,05 mg/m <sup>3</sup>	Lithuania. OELs. Limit Values for Chemical Substances, General Requirements (09 2011)

## 8.2 Exposure controls

### Appropriate Engineering Controls:

Engineering methods to reduce hazardous exposure are preferred controls. Methods include mechanical ventilation (dilution and local exhaust) process or personal enclosure, remote and automated operation, control of process conditions, leak detection and repair systems, and other process modifications. Ensure all exhaust ventilation systems are discharged to outdoors, away from air intakes and ignition sources. Supply sufficient replacement air to make up for air removed by exhaust systems. Administrative (procedure) controls and use of personal protective equipment may also be required.

It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment. Use only appropriately classified electrical equipment and powered industrial trucks.

### Individual protection measures, such as personal protective equipment

- General information:** Personal protective equipment (PPE) should not be considered a long-term solution to exposure control. Employer programs to properly select, fit, maintain and train employees to use equipment must accompany PPE. Consult a competent industrial hygiene resource, the PPE manufacturer's recommendation, and/or applicable regulations to determine hazard potential and ensure adequate protection.
- Eye/face protection:** Wear safety glasses with side shields (or goggles).
- Skin protection**
- Hand Protection:** Use chemically compatible gloves when handling product.
- Other:** Wear chemical-resistant safety footwear with good traction to prevent slipping. Wear appropriate clothing to prevent any possibility of skin contact. Wear work clothes with long sleeves. Wear fire resistant or flame retardant clothing. Synthetic clothing can generate static electricity and is not recommended where a flammable vapour release may occur. Anti-static boots.
- Respiratory Protection:** Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information. Self-contained breathing apparatus. Air supplied breathing apparatus must be used when oxygen concentrations are low or if airborne concentrations exceed the limits of the air-purifying respirators.
- Hygiene measures:** Avoid inhalation of dust and vapours. Use effective control measures and PPE to maintain worker exposure to concentrations that are below these limits. Provide eyewash station and safety shower. Provide for sufficient ventilation. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Environmental Controls:** Follow all applicable environmental protection legislation.

## SECTION 9: Physical And Chemical Properties

### 9.1 Information on basic physical and chemical properties

#### Appearance



<b>Physical state:</b>	solid
<b>Form:</b>	Beads
<b>Colour:</b>	coloured
<b>Odour:</b>	slight hydrocarbon
<b>Odour Threshold:</b>	No data available.
<b>pH:</b>	not applicable
<b>Melting Point:</b>	100 °C (212 °F) (Softening point) (base resin)
<b>Boiling Point:</b>	No data available.
<b>Flash Point:</b>	10 - 18 °C (50 - 64 °F) (ASTM D3278) (Product) -51 °C (-60 °F) (isopentane)
<b>Evaporation Rate:</b>	No data available.
<b>Flammability (solid, gas):</b>	Flammable (Isopentane).
<b>Flammability limit - upper (%):</b>	7,6 %(V) (isopentane)
<b>Flammability limit - lower (%):</b>	1,4 %(V) (isopentane)
<b>Vapour pressure:</b>	595 mm HG (21,1 °C (70,0 °F)) (isopentane)
<b>Vapour density (air=1):</b>	2,5 (0 °C (32 °F)) (isopentane)
<b>Density:</b>	960 - 1.000 kg/m <sup>3</sup>
<b>Relative density:</b>	0,96 - 1,00 (Water=1)
<b>Solubility(ies)</b>	
<b>Solubility in Water:</b>	Insoluble in water
<b>Solubility (other):</b>	Partially soluble in various organic solvents.
<b>Partition coefficient (n-octanol/water):</b>	No data available.
<b>Autoignition Temperature:</b>	420 °C (788 °F) (isopentane)
<b>Decomposition Temperature:</b>	No data available.
<b>SADT:</b>	No data available.
<b>Viscosity:</b>	No data available.
<b>Explosive properties:</b>	No data available.
<b>Oxidising Properties:</b>	No data available.

## SECTION 10: Stability and Reactivity

<b>10.1 Reactivity:</b>	Hazardous reactions not likely when properly stored, handled and transported. In use may form flammable/explosive vapour-air mixture. Risk of dust-air explosion is increased if flammable vapours are present. May burn or react violently with fluorine/oxygen mixtures with 50-100% fluorine. Decomp by powerful oxidising or reducing agents. Exposure to strong oxidizing agents can cause fire or explosion. Powdered material may form explosive dust-air mixtures.
<b>10.2 Chemical Stability:</b>	Material is stable under normal conditions.
<b>10.3 Possibility of Hazardous Reactions:</b>	Hazardous polymerization not likely to occur. Powdered material may form explosive dust-air mixtures. Risk of dust-air explosion is increased if flammable vapours are present.
<b>10.4 Conditions to Avoid:</b>	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Release of pentane increases with temperatures. Avoid storing or handling with UN Class 1 explosives.
<b>10.5 Incompatible Materials:</b>	Not resistant to oxidizing agents; partially dissolves in organic solvents.
<b>10.6 Hazardous Decomposition Products:</b>	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

**SECTION 11: Toxicological Information****Information on likely routes of exposure**

<b>Inhalation:</b>	May cause nausea, headache, dizziness and intoxication. Vapours/heated fumes may be generated during processing. The cristobalite is inextricably bound or coated in the resin, which minimizes the likelihood of exposure.
<b>Skin Contact:</b>	This product may cause irritation to the skin from repetitive handling. Molten material will produce thermal burns. The cristobalite is inextricably bound or coated in the resin, which minimizes the likelihood of exposure.
<b>Eye contact:</b>	May cause temporary eye irritation. Molten material will produce thermal burns. The cristobalite is inextricably bound or coated in the resin, which minimizes the likelihood of exposure.
<b>Ingestion:</b>	Seek medical advice. Material is not expected to be absorbed from the gastrointestinal tract so that induction of vomiting should not be necessary.

**11.1 Information on toxicological effects****Acute toxicity****Oral**

**Product:** Not classified for acute toxicity based on available data.

**Dermal**

**Product:** Not classified for acute toxicity based on available data.

**Inhalation**

**Product:** Not classified for acute toxicity based on available data.

**Repeated dose toxicity**

**Product:** No data available.

**Skin Corrosion/Irritation:**

**Product:** No data available.

**Specified substance(s)**

isopentane; 2-methylbutane Prolonged and repeated skin contact can cause defatting dermatitis with dryness, cracking, redness and blisters.

(R)-p-mentha-1,8-diene; d-limonene Irritating.

Cristobalite Irritating. May cause abrasion to skin. The cristobalite is inextricably bound or coated in the resin, which minimizes the likelihood of exposure.

**Serious Eye Damage/Eye Irritation:**

**Product:** No data available.

**Specified substance(s)**

isopentane; 2-methylbutane Prolonged or repeated contact may cause itching, redness, and rash in some individuals.

(R)-p-mentha-1,8-diene; d-limonene Irritating.

Cristobalite Irritating. May cause abrasion to cornea. The cristobalite is inextricably bound or coated in the resin, which minimizes the likelihood of exposure.



**Respiratory or Skin Sensitisation:****Product:**

Not a skin sensitiser.

The product contains a small amount of sensitising substance which may provoke an allergic reaction among sensitive individuals. Similar products have been tested and were found not to cause sensitisation by the Guinea Pig (Maximization) Test.

**Germ Cell Mutagenicity****In vitro****Product:**

No data available.

**Specified substance(s)**

isopentane; 2-methylbutane

No mutagenic effect was found in various tests with bacterial and mammalian cell culture.

(R)-p-mentha-1,8-diene; d-limonene

No mutagenic effect was found in various tests with bacterial and mammalian cell culture.

Cristobalite

Mutagen. The cristobalite is inextricably bound or coated in the resin, which minimizes the likelihood of exposure.

**In vivo****Product:**

No data available.

**Carcinogenicity****Product:**

Not classified

**Reproductive toxicity****Product:**

No data available.

**Specific Target Organ Toxicity - Single Exposure****Product:**

No data available.

**Specific Target Organ Toxicity - Repeated Exposure****Product:**

No data available.

**Specified substance(s)**

isopentane; 2-methylbutane

Nervous system - Chronic pentane exposure may damage the nervous system causing numbness, "pins and needles" and weakness in the arms and legs.

Skin - Prolonged and repeated skin contact can cause defatting dermatitis with dryness, cracking, redness and blisters.

(R)-p-mentha-1,8-diene; d-limonene

Kidney

Cristobalite

Lungs, Respiratory system - The cristobalite is inextricably bound or coated in the resin, which minimizes the likelihood of exposure.

**Aspiration Hazard****Product:**

No data available.

**SECTION 12: Ecological Information****General information:**

The information below is based on knowledge of the components and the ecotoxicity of similar products. Sewer/waterway obstruction: marine life may ingest beads, which may obstruct their digestive tract. Product is expected to be non-toxic, but small particles may have physical effects on aquatic

and terrestrial organisms This product contains pentane which is classified as toxic to aquatic life. However, this product was tested for aquatic toxicity and found to be not toxic for aquatic organisms.

## 12.1 Toxicity

### Acute toxicity

#### Fish

**Product:** LC 50 (96 h): > 100 mg/l

#### Aquatic Invertebrates

**Product:** EC 50 (Daphnia magna, 48 h): > 100 mg/l

#### Toxicity to aquatic plants

**Product:** EC 50 (72 h): > 100 mg/l

### Chronic toxicity

#### Fish

**Product:** NOEC : > 100 mg/l

#### Aquatic Invertebrates

**Product:** NOEC : > 100 mg/l

#### Toxicity to aquatic plants

**Product:** NOEC : > 100 mg/l

## 12.2 Persistence and Degradability

### Biodegradation

**Product:** The product is not expected to be biodegradable. Do not allow to enter drains, sewers or watercourses. Blowing agent is expected to rapidly volatilise from soil and water.

### BOD/COD Ratio

**Product:** No data available.

## 12.3 Bioaccumulative Potential

**Product:** No data available.

## 12.4 Mobility in Soil:

No data available.

### Known or predicted distribution to environmental compartments

isopentane; 2-methylbutane No data available.

(R)-p-mentha-1,8-diene; d- No data available.

limonene

Cristobalite No data available.

## 12.5 Results of PBT and vPvB assessment:

No data available.

## 12.6 Other Adverse Effects:

Pentane is not classified as an ozone depleting chemical.

## 12.7 Additional Information:

No data available.

## SECTION 13: Disposal Considerations

### 13.1 Waste treatment methods

#### General information:

This product, if discarded, is not expected to be a hazardous waste. The use, mixing or processing of this product may alter its properties or

hazards. External treatment and disposal of waste should comply with applicable local and/or national regulations.

**Disposal methods:**

Incinerate or landfill. External recovery and recycling of waste should comply with applicable local and/or national regulations. External treatment and disposal of waste should comply with applicable local and/or national regulations. DO NOT ATTEMPT TO DISPOSE OF BY UNCONTROLLED INCINERATION. Surplus and unused beads may still contain residual pentane; handle using all safety measures as if fresh product.

Since emptied containers retain product residue, follow label warnings even after container is emptied. Waste generator is advised to carefully consider hazardous properties and control measures needed for other materials that may be found in the waste. Refer to the NOVA Chemicals ARCEL® Resins Storage and Handling Safety Guide for additional recycling and disposal information.

**SECTION 14: Transport Information**

The temperature of the refrigerated container must be set at -18°C (0°F) or colder. Additional transport, handling and storage information is detailed in the NOVA Chemicals ARCEL® Resins Storage and Handling Safety Guide.

**ADR**

14.1 UN Number:	UN 2211
14.2 UN Proper Shipping Name:	POLYMERIC BEADS, EXPANDABLE, EVOLVING FLAMMABLE VAPOUR
14.3 Transport Hazard Class(es)	
Class:	9
Label(s):	–
Hazard No. (ADR):	90
Tunnel restriction code:	(D/E)
14.4 Packing Group:	III
Limited quantity	5,00KG
Excepted quantity	E1
14.6 Special precautions for user:	Product releases pentane, a flammable vapour. Keep from heat, sparks, lit smoking materials (cigarettes), static electricity discharges, open flame or any other potential ignition source. Shipping containers, trucks and trailers should be ventilated for at least 15 minutes prior to unloading.

**IMDG**

14.1 UN Number:	UN 2211
14.2 UN Proper Shipping Name:	POLYMERIC BEADS, EXPANDABLE, EVOLVING FLAMMABLE VAPOUR
14.3 Transport Hazard Class(es)	
Class:	9
Label(s):	9
EmS No.:	F-A, S-I
14.4 Packing Group:	III
Limited quantity	5,00KG
Excepted quantity	E1
14.5 Environmental Hazards:	No
Marine pollutant	No
14.6 Special precautions for user:	Product releases pentane, a flammable vapour. Keep from heat, sparks, lit smoking materials (cigarettes), static electricity discharges, open flame or any other potential ignition source. Shipping containers, trucks and trailers should be ventilated for at least 15 minutes prior to unloading.

**IATA**

14.1 UN Number:	UN 2211
14.2 Proper Shipping Name:	Polymeric beads, expandable, evolving flammable vapour
14.3 Transport Hazard Class(es):	
Class:	9
Label(s):	9MI (Miscellaneous)
14.4 Packing Group:	III
Limited quantity:	–
Excepted quantity	E1
14.5 Environmental Hazards:	No
Marine pollutant	No
14.6 Special precautions for user:	Product releases pentane, a flammable vapour. Keep from heat, sparks, lit smoking materials (cigarettes), static electricity discharges, open flame or any other potential ignition source. Shipping containers, trucks and trailers should be ventilated for at least 15 minutes prior to unloading.

**14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code:** not applicable

**SECTION 15: Regulatory information**

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:**

**EU Regulations**

**Regulation 1005/2009/EC on substances that deplete the ozone layer, Annex I, Controlled Substances:** none

**Regulation 1005/2009/EC on substances that deplete the ozone layer, Annex II, New Substances:** none

**EU. Reach Annex XIV, Substances Subject to Authorization:** none

**Regulation (EU) 2019/1021 On persistent organic pollutants (recast), as amended:** none

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended:** none

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended:** none

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended:** none

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended:** none

**EU. REACH Candidate List of Substances of Very High Concern for Authorization (SVHC):** none

**Regulation (EC) No. 1907/2006 Annex XVII Substances subject to restriction on marketing and use:** none

**Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens and mutagens at work.:** none

**Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breast feeding.:** none

**EU. Directive 2012/18/EU (SEVESO III) on major accident hazards involving dangerous substances,**

as amended.: not applicable

**EU. Regulation No. 166/2006 PRTR (Pollutant Release and Transfer Registry), Annex II: Pollutants:**  
none

**Directive 98/24/EC on the protection of workers from the risks related to chemical agents at work:**

Chemical name	CAS-No.	Concentration
isopentane; 2-methylbutane	78-78-4	4 - 12%
(R)-p-mentha-1,8-diene; d-limonene	5989-27-5	0,1 - <1,0%

**15.2 Chemical safety assessment:**

Not required. This product complies with the registration requirements of the REACH Regulation (EC) No 1907/2006. The component substances have been duly registered or are exempt from registration. This covers those EU importers included in NOVA Chemicals' Only Representative scheme.

**SECTION 16: Other Information**

**Revision Information:** 01.07.2020: SDS Update – section 14 edits, section 15 edits  
16.10.2019: SDS Update – REACH Only Representative address updated, Section 15 updates, phrase updates  
26.07.2018: SDS Update

**References**

PBT PBT: persistent, bioaccumulative and toxic substance.  
vPvB vPvB: very persistent and very bioaccumulative substance.

**Key literature references and sources for data:** Available on request.

**Wording of the H-statements in sections 2 and 3**

H224 Extremely flammable liquid and vapour.  
H226 Flammable liquid and vapour.  
H304 May be fatal if swallowed and enters airways.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H336 May cause drowsiness or dizziness.  
H350 May cause cancer.  
H400 Very toxic to aquatic life.  
H410 Very toxic to aquatic life with long lasting effects.  
H411 Toxic to aquatic life with long lasting effects.

**Training information:** Suitable information on safety in handling, storage and processing the product should be given to employees based on the existing information.

**Other information:** For additional transport, handling and storage information, refer to the NOVA Chemicals ARCEL® Resins Storage and Handling Safety Guide.

**Abbreviations and acronyms:** ACGIH = American Conference of Governmental Industrial Hygienists; ADR = Transport of Dangerous Goods by Road; ADR/RID = European Agreement of Dangerous Goods by Road/Rail; CAS = Chemical Abstracts Service; DFG = Deutsche Forschungsgemeinschaft; EC50 = Effective Concentration 50%; EEC = European Economic Community; EU = European Union; GHS = Globally Harmonized System for the Classification and Labelling of Chemicals; IARC = International Agency for Research on Cancer; IATA = International Air Transport Association; IBC Code = The International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; ICAO = International Civil Aviation Organization; IMDG = International Maritime Dangerous Goods; IMO = International Maritime Organization; Kow = Octanol/water partition coefficient; LC50 = Lethal Concentration 50%; LD50 = Lethal Dose 50%; LEL = Lower Explosive Limit; LFL = Lower Flammable Limit; LLV = Level Limit Ceiling Limit (Sweden dust); MAK = Maximum Concentration Value in the Workplace; MARPOL = The International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978; NCEC = National Chemical Emergency Centre; NFPA = National Fire

Protection Association; NTP = National Toxicology Program; OEL = Occupational Exposure Limit; PNOC = Particulates Not Otherwise Classified; PPE = Personal Protective Equipment; REACH = Registration, Evaluation, Authorisation and Restriction of Chemical Substances; RID = Transport of Dangerous Goods by Rail; SADT = Self Accelerating Decomposition Temperature; SCBA = Self Contained Breathing Apparatus; SDS = Safety Data Sheet; STEL = Short Term Exposure Limit; TLV = Threshold Limit Value; TWA = Time Weighted Average; UEL = Upper Explosive Limit; UFL = Upper Flammable Limit; VLA-ED = Valor límite Ambiental de Exposición Diaria (Environmental Exposure Daily Limit Value); VME = valeur limite d'exposition (Occupational Exposure Limits)

**Issue Date:** 01.07.2020  
**SDS No.:** NOVA-1000

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