Polypropylene (PP) Resin

SECTION 1. IDENTIFICATION	
Chemical name	Polypropylene (PP) resin
CAS Number	PP – homopolymer (CAS 9003-07-0) PP – ethylene/propylene copolymer (CAS 9010-79-1)
Trade Name	Gryfilen
Product code	H25-NAS
Recommended use	Manufacture of plastic articles by injection molding, thermoforming, extrusion/ compression, film, raffia, blow molding, fibers or other conversion processes.
Product form	Pellets or Flakes
Product use	Industrial applications
Area of application	Industrial applications
Supplier	GRUPA AZOTY POLYOLEFINS Kuźnicka 1, 72-010 Police, POLAND
E-mail address of responsible person	commercial@grupaazoty.com
Emergency telephone number	+48 726 120 316

SECTION 2. HAZARD IDENTIFICATION	
Compound classification	Not classified as a dangerous substance according to the Regulation (EC) No 1272/2008 OF THE EUROPEAN PARLIA-MENT AND OF THE COUNCIL
Hazards for human health	Under conditions of proper use, neither acute nor chronic adverse effects on hu-man health can be expected. Dust inhalation may irritate respiratory organs. Melted product may cause seri-ous burns following the contact with the skin or eyes. Vapors formed by pro-cessing at higher temperatures may irritate respira-tory system and eyes.

	Ingestion of small amounts should not cause any harm.
Environmental hazard	No harmful effects in the environment. It is a foreign substance in the environment with very slow degradation. The degradation is mainly caused by UV irradiation. The substance is insoluble in water.
Other information	Flammable, but not readily to ignite. Dangerous and irritating substances may be released by combustion. The dust is explosive; air-borne dust concentration above the low explosive limit may cause the risk of explosion. The product can become electrostatically charged.
Other hazards	Not specified.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical characteristics	Homopolymer polypropylene or ethylene/propylene copolymer in the form of pellets or flakes of waxy appearance
Hazardous ingredients in product	None

SECTION 4. FIRST-AID MEASURES

General information	No special precaution measures are needed. In case of health problems or uncertainty seek medical attention and provide information from this material safety data sheet.
Inhalation	In case of dust or irritating vapors inhalation move the affected person to fresh air. Seek medical advice if the symptoms persist.
Eye contact	If dust irritates eyes, rinse eyes with water or remove the dust as other common physical contamination. Seek medical advice if the symptoms persist.
Skin contact	First aid is generally not needed. General hygiene measures should be followed. Don't remove the melted product from the skin. Cool affected area with running cool water and provide medical attention.

Ingestion	In case of ingestion of bigger amounts seek specialized medical attention.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	Fire – smaller extend: dry extinguishing material, CO_2, sprayed water or foam Fire – intensive: sprayed water, water fog or foam.
Extinguishing media which shall not be used for safety reasons	Full water-jet.
Special hazard in case of fire	Irritating gases and dense smokes are produce by the combustion. Carbon oxides (CO and CO_2) may develop
Special hazard of explosion	During the transport of the product (e.g. filling or emptying of the silos, tanks, hoppers, etc.) dust particles may be formed in the production facilities, which following its accumulation, may ignite or explode in the consequence of electrostatic charge induction. Measures against electrostatic charging are therefore needed (grounding, measures for safe electrostatic discharging) for these facilities.
Special protection equipment for firefighters	Full protective clothing and self-contained breathing apparatus.
Other information	In case of great fire, protect persons, storage facilities, and all other objects near the fire with the water spray.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Spilled pellets may cause slipping hazard and the risk of tumbling. Avoid areas with the scattered air-born dust. Do not inhale the dust. Avoid contact of the melted material with the skin or eyes.
Environmental precautions	Do not drain spilled material in the canalization system
Recommended clean-up methods	Sweep spilled material and place it in appropriate packages (big-bags) or clean containers. According to the level of contamination, the spilled material may be recycled, or disposed in compliance with the relevant waste management legislation

SECTION 7. HANDLING AND STORAGE

Handling	Keep to all fire-fighting measures (do not work with open flame, keep away from all sources of ignition, do not smoke). Prevent dust formation and electrostatic discharging. Prevent accidental releases of the material in the environment during the manipulation.
Storage	Storage facilities must fulfill all fire safety requirements for buildings, and all electrical appliances must be compliant with the applicable regulations. Store the product in dry, well-ventilated roofed storehouse. Protect from direct sunlight. Recommended storage temperature: -20°C to + 40°C. The product should be kept at least 1 m from the heat sources. Prevent accidental releases of the material in the environment during the storage. Stacking of pallets is not advised by GRUPA AZOTY POLYOLEFINS
Specific use(s)	Not specified

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limit values	Allowed exposure limit value for the whole concentration of polypropylene dust in the air on the workplace is 5 mg/m^3

Exposure controls	Recommended method for monitoring of polypropylene dust in air on workplace: gravimetry and dustmeter.
Occupational exposure controls	Workplace protective measures: • in case of dust formation use adequate ventilation. • installation of the exhaust ventilation equipment over the processing appliances is recommended to exhaust vapors from the melted polypropylene. Individual protective measures: • The workers should wear personal protection equipment (PPE) for the protection of eyes, Respiratory system, skin, foots and hands, as follows: • Eyes: - safety goggles • Respiratory system: - ventilation system exhausting dust and vapors is normally required, if not adequate, use respirator. • Skin: - protective clothing Legs: - closed shoes, slip-resistant • Hand: - protective gloves made of para-aramid/carbon composite fabric, with the heat insulation to min. 270°C and leather sleeves for the forearm protection. For example, five-fingers gloves from KCL, type "Karbo TECT with the leather sleeves" (heat insulation to 350°C) may be used.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

General information	appearance: solid colour: colourless odour: odourless
Important health, safety and environmental information	• pH-value: not defined • boiling point (°C): not determined • flash point (°C): 350 - 370 • low explosion limit (dust)) (g/m^3): 32 • oxidizing properties: none • vapor pressure at 20°C: not defined • density (kg/m3): 900 - 910 • water solubility at 20°C (g/l): insoluble • partitioning coefficient n-octanol/water: not determined • viscosity at 20°C (mPa s): not defined at specified temperature • vapor density: not defined • evaporation speed: not defined
Other information	• melting point (pellets), (°C): 133 - 165 • ignition temperature (pellets), (°C): 370 - 390

	• ignition temperature (settled dust of the polymer), (°C): 350 • minimum ignition energy (J): 0,08 • combustion heat (MJ/kg): 45 • bulk density (pellets), (kg/m^3): 470 - 600

SECTION 10. STABILITY AND REACTIVITY

Conditions to avoid	The substance alone is stable at normal temperatures. Avoid heating over 300°C. Keep away from the sources of ignition and electrostatic discharges.
Materials to avoid	Chlorine, fluorine, strong oxidizing agents
Hazardous decomposition products	Decomposition under the higher temperatures in the air atmosphere may produce CO, CO_2 and H_2O.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute adverse effects on human health	According to current state of expert knowledge this substance is not considered as hazardous for human and has no adverse effects on human health. Acute animal toxicity • LD50 intraperitoneally – rat > 110 000 mg/kg • LD50 intravenous - rat > 99 000 mg/kg.
Sensitization	The substance has no known sensitization effects
Repeated dose toxicity	not determined
CMR effects (carcinogenicity, mutagenicity, reproduction toxicity)	The substance has no known CMR effects.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity	not determined
Mobility	not determined
Persistence and degradability	This substance has no harmful effects in the environment. It is a foreign substance in the environment with very slow degradation. The degradation is mainly caused by UV irradiation. The substance is insoluble in the water.

Bio-accumulative potential	not determined
Results of PBT assessment	not determined
Other adverse effects	The product is not considered as harmful or dangerous material.

SECTION 13. DISPOSAL CONSIDERATIONS

SECTION 14. TRANSPORT INFORMATION

disposal	(pellets of polymer) avoid product entering the canalization system, as it may cause mechanical blockage of the canalization system. Sweep mechanically and transport for further processing, recycling, or dispose in compliance with the relevant waste management legislation. In all other cases use in compliance with the relevant waste management legislation.
Transport classification	The substance is not classified as dangerous according to relevant transport regulations.
Specific precaution measures for the transport	not stated
Recommended methods for the disposal	energetic waste utilization, material waste utilization
Relevant waste management legislation	Waste polypropylene is classified according the Decree HR No. CLXXXV/2012

SECTION 15. REGULATORY INFORMATION	
Chemical Safety Assessment	not determined.
Package labeling	Not needed (the substance is not classified as dangerous according to the Act of National Council of HR No. 98/2001 Coll. and the Directive 67/548/EEC), and Regulation (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
Other applicable legislation, regulations, and directives	European Union: Regulation No. 1907/2006 of the European Parliament and of the Council (EC) concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, Act of the National Council of HR No. XXV /2000 Coll. of Law, on chemical substances and chemical preparations, Act of the National Council of HR No. XLIII/2000 Coll. of Law, on waste and on amendment of certain acts, Act of the National Council of HR No. 44/2000 (XII.27) EüM Coll. of Law, on dangerous materials and preparations on amendment of certain acts.

SECTION 16. OTHER INFORMATION	
Access to information	According to the Article 35, Regulation EP and EC NO. 1907/2006, workers and their representatives shall be granted access by their employer to the information provided in the safety data sheet in relation for this preparation that they use or may be exposed to in the course of their work. Changes made in the revision: 1.3; 1.4 2. 13.3. This material safety data sheet was prepared according to the Regulation (EC) No. 1907/2006 of the European Parliament and of the Council. It contains information important for the health and safety of the user and for the protection of the environment. This information does not replace qualitative specifications and should not be considered as a warranty of suitability and applicability of this product for any specific application. The above mentioned information is based on our current level of knowledge and is in compliance with our legislative regulations. The consumer is responsible for the adherence to the relevant regional legislative regulations.