

## Genitron® Thermoplastic Masterbatches

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Genitron Thermoplastic Masterbatches are high performance polymer-bound blowing agent masterbatches for the injection moulding and extrusion of thermoplastics. Genitron Thermoplastic Masterbatches contain between 20 and 60 % blowing agent preparation in different polymeric carriers.

<b>Chemical composition</b>	Formulation of chemical blowing agents in a polymeric binder
<b>CAS Reg. No.</b>	123-77-3 (ADC)
<b>Physical form</b>	yellow pellets
<b>Health and safety information</b>	Relevant safety data and references as well as possibly necessary warning labels can be found in the safety data sheets.

### Product Range and Typical Properties

Product	Blowing Agent	Blowing Agent Content (%)	Polymer Carrier	Typical Application Temperature (°C)
Genitron® UA-25	Genitron® EPA	25	EVA	200 - 230*
Genitron® PB-20	Genitron® EPB	20	LDPE	170 - 225
Genitron® UB-25	Genitron® EPB	25	EVA	170 - 225
Genitron® UN-30	Endo/exothermi	30	Universal	230 - 280
Genitron® VPSP 51011	Exothermi	60	EVA	170 - 210*
Genitron® VPSP 51014	Exothermi	40	LDPE	210 - 240*
Genitron® VPSP 51016	Exotherm	60	EVA	150 - 200
Genitron® VPSP 51019	Exotherm	40	EVA	160 - 200
Genitron® VPKA 9174	Endotherm	60	EVA	160 - 230
Genitron® DP 50/33	Endotherm	40	LDPE	160 - 260

\* Can be reduced to 160 – 190 °C by the addition of suitable activators.

## PLASTIC ADDITIVES



## Storage

During storage and handling Genitron Thermoplastic Masterbatches should be kept cool and the upper temperature limit (not the long-term temperature) of approx. 50 °C should not be exceeded; i.e. Genitron Thermoplastic Masterbatches should not be stored near radiators; other heat sources such as sunlight or lighted cigarettes should be avoided and there must be no sparks or naked flames in the vicinity.

Genitron Thermoplastic Masterbatches are best stored in the original container in a separate, cool room. Quantities of Genitron Thermoplastic Masterbatches other than those required for immediate processing should not be stored within manufacturing areas.

**These raw material properties are typical properties and, unless specifically indicated otherwise, are not to be considered as delivery specification.**

Any national requirements pertaining to the segregation of packaged dangerous goods must be observed.

When stored in a cool and dry place in sealed original containers, Genitron Thermoplastic Masterbatches have a shelf life of two years.

## Packaging

25 kg boxes on 18 x 25 kg pallets  
(Packaging DP 50/33 = 15 kg boxes  
18 x 15 kg = 270 kg/Pallet.

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## Additional Information

### Product range

The Genitron Thermoplastic Masterbatches are selected formulations of chemical blowing agents in a granulated polymer-bound form. This combines the proven performance and quality of the powdery Porofor- and Genitron products with the convenient, efficient and dust-free handling of masterbatch products. Typical fields of application of the Genitron thermoplastic masterbatches are the injection moulding and the extrusion of foamed thermoplastics.

The Genitron Thermoplastic Masterbatches are melt compounded concentrates of high performance blowing agents in a polymeric binder.

The exothermic blowing agents are unique formulations of modified azodicarbonamide which have been activated to varying degrees for use at processing temperatures from 160°C to 230°C. Genitron UN-30 contains an endo-/exothermic blowing agent formulation for higher processing temperatures up to 160 to 260°C, are based on sodium bicarbonate.

The Genitron Masterbatch range provides a choice of carrier, blowing agent and concentration to meet the very specific needs of individual applications.

**PLASTIC ADDITIVES**



## General properties

- Dust-free handling

Powder blowing agents can cause dusting and be difficult to handle or meter efficiently, especially at the typical loadings of less than 1 %.

The Genitron Masterbatch pellets allow convenient and dust-free handling without the need for personal respiratory protection or expensive dust extraction equipment. Furthermore, these masterbatch products can be added and dispersed with the polymer by tumble blending or direct metering on standard equipment. All of these benefits improve the working environment and minimise the capital investment for the safe and effective use of these products.

- Faster dispersion

Pelletised Genitron Masterbatches can be dispersed faster than equivalent powder blowing agents. This can lead to a significant reduction in the blending times and costs required to achieve uniform dispersion of the blowing agent throughout the polymer.

The use of Genitron Masterbatches eliminates the need for additional agents (e.g. paraffinic oil) to incorporate low concentrations of powder blowing agents. It also reduces the incidence of "screw slippage" when high levels of powder blowing agent and processing agent are used.

- Improved foam quality

The superior dispersion properties and self-nucleation of the Genitron Masterbatches result in the production of foams with better cell structures and smoother surfaces. This is particularly important for consumer and domestic applications where a high quality finish is demanded. The cost-effectiveness of production will also be enhanced as the reject rate for inferior quality items will be reduced.

- Proven performance

The Genitron masterbatches, that contain products of the Genitron-EP-range, have their performance benefits in injection moulding and extrusion process. Which includes:

- elimination of plate-out, which enables long and cost-effective production runs of high quality mouldings or extrudates to be achieved.
- no steam generation, which reduces mould corrosion problems.
- reduction of foam density by up to 30 %, which can significantly reduce the unit costs of production.

## Applications

Genitron Thermoplastic Masterbatches are widely used in the injection moulding and extrusion of cellular

- polyolefins
- styrenics
- engineering thermoplastics.

Genitron Masterbatches are therefore suitable for a wide variety of applications, which include:

- wood and metal replacement, e.g. electrical equipment housing and automotive components
- integral skin and thin walled mouldings, e.g. consumer and domestic items
- crosslinked injection mouldings, e.g. EVA tyres and shoe soles
- cellular cable insulation, e.g. telephone transmission and coaxial cables
- extruded profiles, e.g. pipes and building materials
- avoidance of sink marks in injection moulded items

The Genitron Thermoplastic Masterbatches can be used at processing temperatures of 150 - 280 °C depending upon the product.

## PLASTIC ADDITIVES



The addition levels of these products will vary according to the density of the foam required and is typically:

- 1.5 - 3.0 % for foam applications
- 0.1 - 0.5 % for avoidance of sink marks

Genitron Thermoplastic Masterbatches can be dispersed easily by tumble blending them with the polymer on standard equipment and adding the blend to the machine hopper for the processing. Alternatively, the Genitron Masterbatches can be directly metered into the machine by volumetric or gravimetric feeders.

## Handling

Genitron Thermoplastic Masterbatches decompose at a relatively low temperature; so care should be taken to ensure that the decomposition temperature of the product is not exceeded during compounding.

Conveyors, filling and weighing equipment must be earthed to prevent Genitron Thermoplastic Masterbatches becoming electrostatically charged. When used in closed systems all equipment should be provided with adequate, unrestricted venting to ensure that internal pressure cannot build up in the event of accidental decomposition.

The gases formed when Genitron Thermoplastic Masterbatches decompose in the intended manner in plastic compounds should be removed from the workplace by ventilation.

data sheets. If handling Genitron Thermoplastic Masterbatches, direct contact with other blowing agent types and reactive chemicals, especially acids, alkalis and heavy metal salts, must be prevented; in the event of contact with acids or alkalis, there is a risk of violent decomposition. Empty containers with residues of Genitron Thermoplastic Masterbatches must never be used for other chemicals. Substance residues should be destroyed by controlled incineration in accordance with official regulations.

Should a Genitron Thermoplastic Masterbatches begin to decompose due to unforeseen circumstances, perceptible due to the appearance of dense smoke, it must be cooled down immediately to halt the decomposition reaction. The cooling is best achieved by spraying or sprinkling with plenty of water.

Inhalation of azodicarbonic acid diamide may cause sensitisation (asthmatic symptoms). Further information can be found in the safety

The above formulation is intended solely as a guide for our business partners and others interested in our products. As the conditions of use and application of the suggested formulation are beyond our control, it is imperative that it be tested to determine, to your satisfaction, whether it is suitable for your intended use(s) and application(s). This application-specific analysis at least must include testing to determine suitability from a technical, as well as health, safety and environmental standpoints. Further, although the ingredients, quantities thereof and properties of compounds or finished goods mentioned herein reflect our recommendation at the time of publication, this guide may not be subject to continuous review and/or updating, and you agree that use is undertaken at your sole risk. All information is given without warranty or guarantee, and it is expressly understood and agreed that you assume, and hereby expressly release us from, all liability, in tort, contract or otherwise, incurred in connection with the use of this guide.

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Functional Chemicals High Performance Additives Plastic Additives

## PLASTIC ADDITIVES

