

Genitron® ACR

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Genitron® ACR is an azodicarbonic acid diamide/p-toluene sulphohydrazide preparation which is used for the foaming of rubbers. Genitron ACR decomposes faster and generates appreciably more gas than standard azodicarbonic acid diamide products at temperatures of 150 - 170 °C.

Chemical composition	azodicarbonic acid diamide/p-toluene sulphohydrazide preparation
CAS Reg. No.	123-77-3 (ADC); 1576-35-8 (TSH)
Physical form	yellow powder
Health and safety information	Relevant safety data and references as well as possibly necessary warning labels can be found in the safety data sheet no. 684558.

Specified Properties

Property	Nominal Value	Unit	Test Method
Sieve test	0.5 max.	%	PAD 22
ADC content	85.6 ± 1.5	%	PAD 32
Volatiles	0.5 max.	%	POR 52
Ash	0.6 max.	%	POR 53

PLASTIC ADDITIVES



Storage

During storage and handling, Genitron ACR should be kept cool and the upper temperature limit (not long-term temperature) of approx. 50 °C should not be exceeded; i.e. Genitron ACR 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 ACR is best stored in its original container in a separate, cool room. Quantities of Genitron ACR other than those required for immediate processing should not be stored within manufacturing areas. 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 ACR has a shelf life of twenty-four months.

Solubility

Partly soluble in dimethyl sulphoxide and ethanol, TSH reacts with dimethyl formamide and ketones.

Packaging

25 kg boxes

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

General properties

Genitron ACR is a chemical blowing agent preparation based on azodicarbonic acid diamide and p-toluene sulphohydrazide.

Genitron ACR decomposes much more efficiently than standard azodicarbonic acid diamide systems and provides the options of:

- high gas yield at comparatively low temperatures
- improved rate of decomposition.

Genitron ACR decomposes much more rapidly to give more gas than conventional azodicarbonic acid diamide systems at temperatures of 150 - 170 °C.

Applications

Genitron ACR can be used in a wide variety of polymers such as PVC and LDPE, but is used particularly for the expansion of

- natural and synthetic rubbers, i.e. SBR, EPDM, NBR, CR, PVC/NBR blends.

Genitron ACR is suitable for foaming of a wide range of rubbers using foam moulding and extrusion techniques.

Genitron ACR is used in a wide variety of applications including the production of

- thermal insulation materials
- car door sealing strips
- life jackets
- wet suits
- soiling material
- packaging materials

The amounts needed vary between 0.05 % and 20 % of the total compound depending on the manufacturing process and article.

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Genitron ACR is typically used at processing temperatures of 150 - 190 °C.

Behaviour during compounding

The usual rubber compounding processes provide sufficient mixing to give adequate

Handling

Genitron ACR is not explosive according to the criteria of the German Regulations on Explosives; thus the storage classification is not applicable.

Genitron ACR decomposes at a relatively low temperature, so care should be taken to ensure that the decomposition temperature of the product is not exceeded during the compounding process.

The product and product dust are capable, like powders in general, of dust explosion. Conveyors, filling and weighing equipment must be earthed to prevent Genitron ACR becoming electrostatically charged. Genitron ACR dust must not be allowed to settle in the workplace. 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 ACR decomposes in the intended manner in plastic compounds should be removed from the workplace by ventilation.

If handling Genitron ACR, 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 ACR must never be used for other chemicals. Substance residues should be destroyed by controlled incineration in accordance with official regulations.

Should Genitron ACR 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). The inhalation of Genitron ACR dust should be avoided, i.e. by wearing a face mask. Further information can be found in the safety data sheet.

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