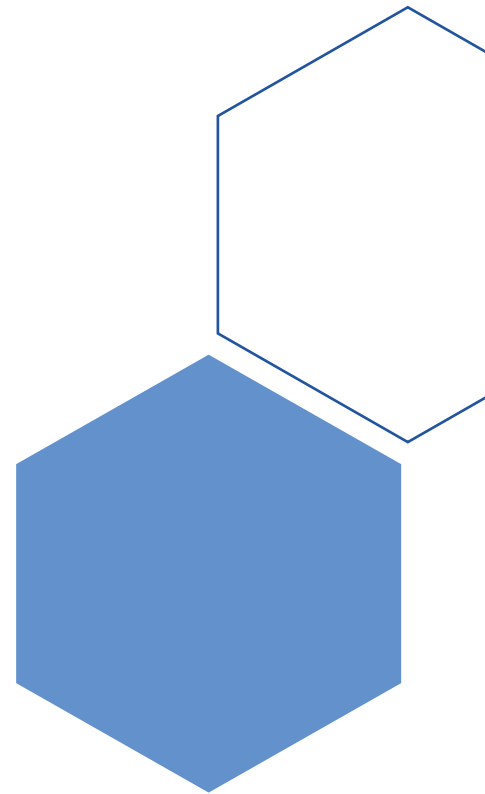


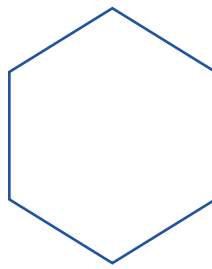


nasika

avanzare composites



**High performance
solutions for the
rubber industry**

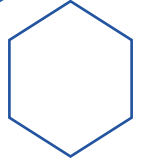


Content

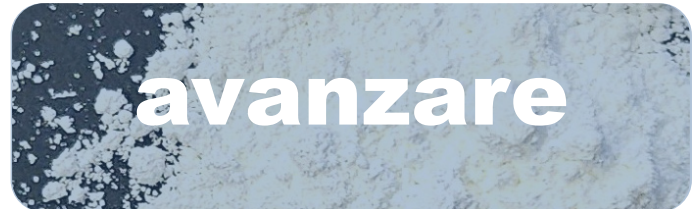
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Our products



AVANZARE advanced materials is our line of high performance additives for the rubber industry. These products give special properties to the final rubber product.



NASIKA grade predispersed products are of the highest quality and are characterized by their **low viscosity** and the **high degree of filtration** to which they are subjected, specifically for soft rubbers.

AKIMIX grade predispersed products specially designed for hard rubber with reduced filtration process.

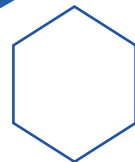


NASIKA DB are dry blends and chemical formulations for rubber.

The **AKISAN** line consists of **accelerators** and other **minor additives** for the rubber industry, available in both **powder and oil powder formats**. These products are very useful for a wide range of applications.



Avanzare additives



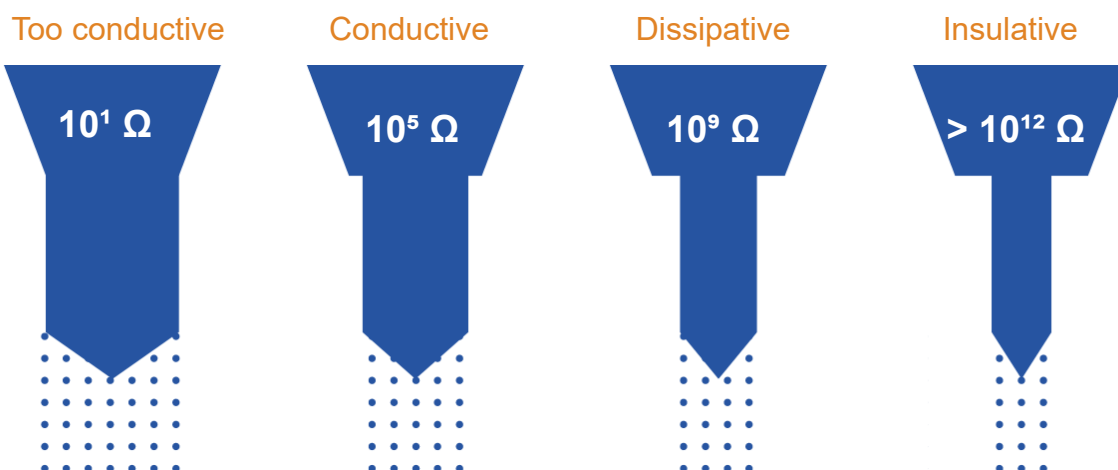
Antistatic / ESD additives

Antistatic line

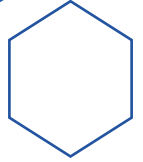
Special additives to create permanent and colorable rubber solutions.

PRODUCT	NBR	SBR	EPDM	NR	IIR	CSM	phr	Format	Characteristics
avanSTATIC Rubber	■						1-5	Powder	$10^6 - 10^9 \Omega$
avanSTATIC Rubber MB	■						10-25	MB	$10^6 - 10^9 \Omega$
avanSTATIC SBR/EPDM		■	■	■	■		7-12	Powder	$10^7 - 10^9 \Omega$
avanSTATIC S45		■	■	■	■		6-14	Powder	$10^6 - 10^9 \Omega$
avanSTATIC FDA 445	■	■	■	■	■		5-15	Powder	$10^7 - 10^9 \Omega$ (Food contact)
avanSTATIC PLAST	■	■		■	■	■	5-12	Liquid	$10^7 - 10^9 \Omega$
avanSTATIC NBR 535	■						2-8	Liquid	$10^6 - 10^9 \Omega$
avanSTATIC 1515		■	■	■			4-6	Liquid	$10^7 - 10^9 \Omega$

Conductive floors versus static dissipative floor



Avanzare additives



Magnetic Tracer (food application)

avanSAFE DETECTOR

Designed to impart detectability by metallic, magnetic or X-ray systems to rubber and other polymers. Specially designed to detect small pieces and rubber contamination in food production processes.

APPLICATIONS:

Buckets, Scraper, Shovels.

Rubber gaskets.

Ties, Pens, Card Holders.

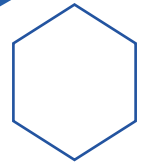
Pipes.

Conveyor belts.

Food contact elements.

Colorable, FDA and EU regulation 10/2011.

Avanzare additives



Biocides

Our biocides prevent the accumulation and growth of bacteria, fungi and algae on the surface of rubber materials for a more hygienic environment.

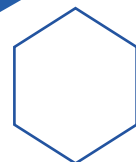
According to the European directive n° 1048/2005 (13/June/2005) and directive (CE) n° 528/2012 regulating the applications of biocides in the industry.

PRODUCT	USES	FORMAT	%
avanZNO BAC	General biocide grade	Powder (white)	0.1 - 0.2
avanS-109	Food contact biocide grade	Powder (white)	0.5 - 0.8



Prevent the accumulation
and growth of bacteria,
fungi & algae.

Avanzare additives



Anti-blooming

avanSTOP Blooming 64

A barrier-effect additive to prevent the leaching of plasticizers and other additives from the rubber surface.



Non-toxic additive



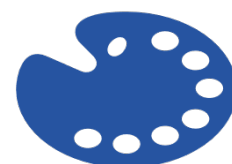
Powder form



Reach compliance

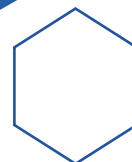


Minimal impact over physical properties



Valid for any colour

Avanzare additives



Graphene / Electrical and thermal conductive solution

Conductive graphene-based materials provide both thermal and electrical conductivity within any polymer matrix.

Electrical conductivity

Conductive Graphene and Graphene MB for high conductivity rubber application.

PRODUCT	USES	FORMAT	%
avanGRP 601	General use. Low dosage powder for electrical conductivity.	Powder (black)	8-12
avanGRP 700 MB	General use. Low dosage of MB for conductivity but not critical the mechanical properties.	Pellet (black)	25-40

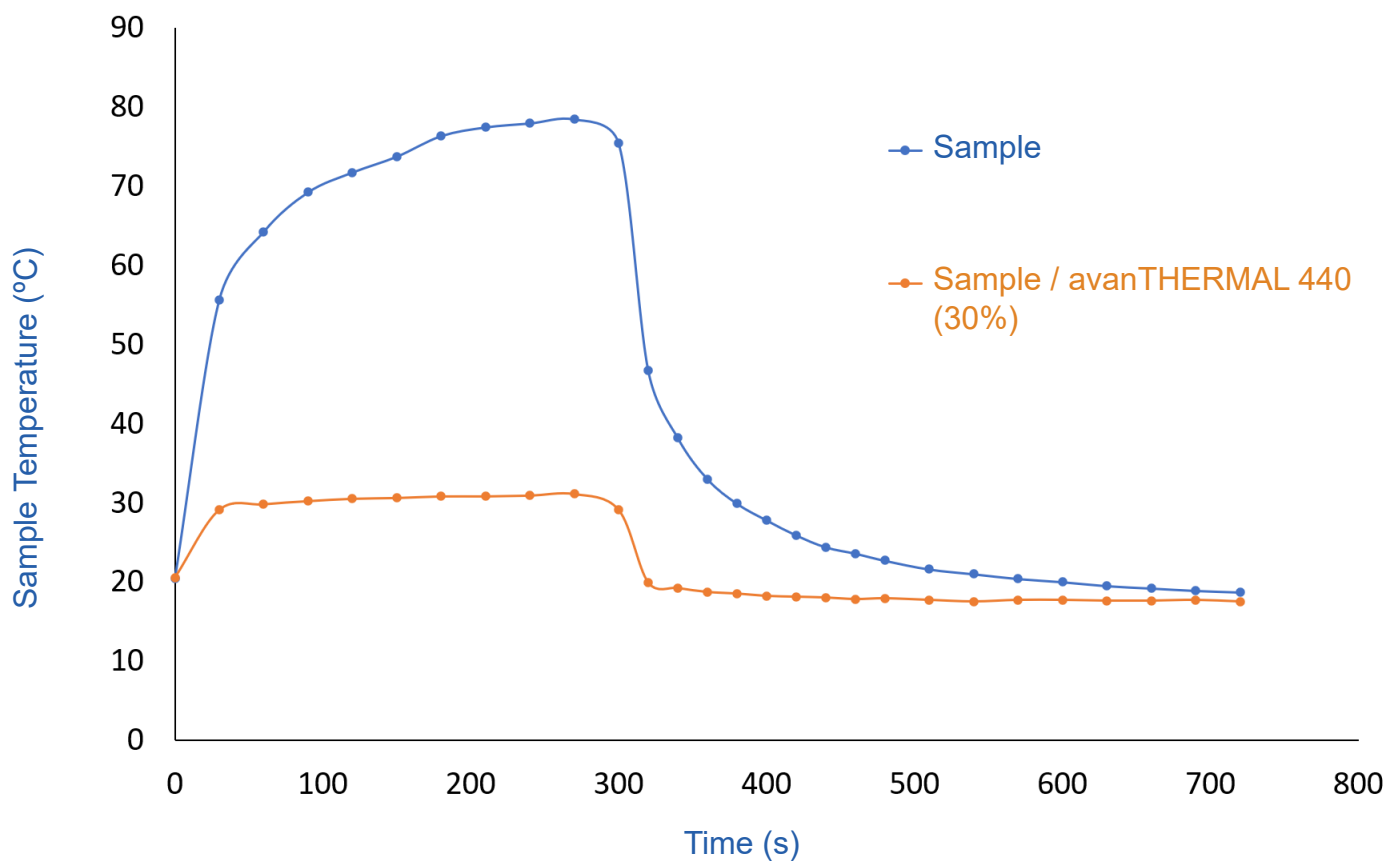
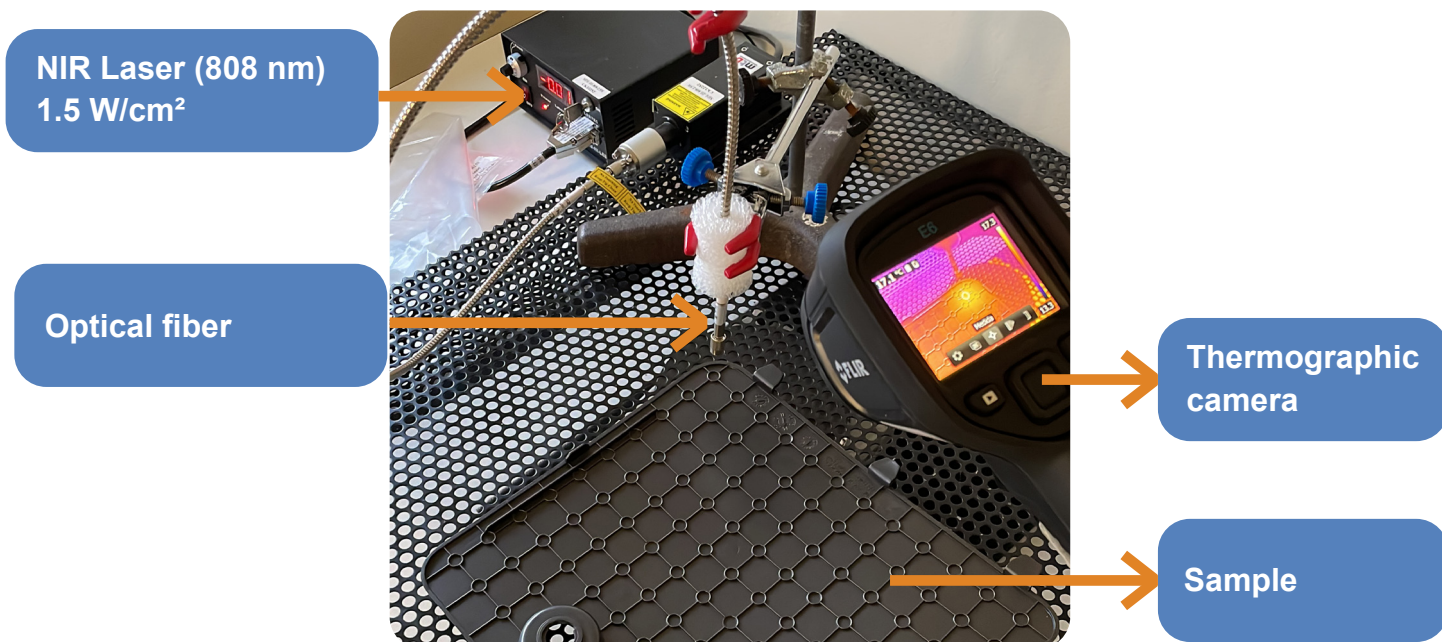
Thermal conductivity

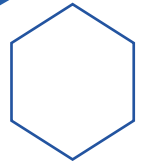
Avanthermal solutions are a series of very effective Graphene based additives, specifically designed to provide thermal conductivity in rubber and other matrices.

PRODUCT	USES	FORMAT	%
avanTHERMAL 440	General use. Low dosage powder for thermal conductivity.	Powder (black)	8-xx
avanTHERMAL 440 MB	General use in MB format. Low dosage of MB for conductivity but not critical the mechanical properties.	Pellet (black)	25-40



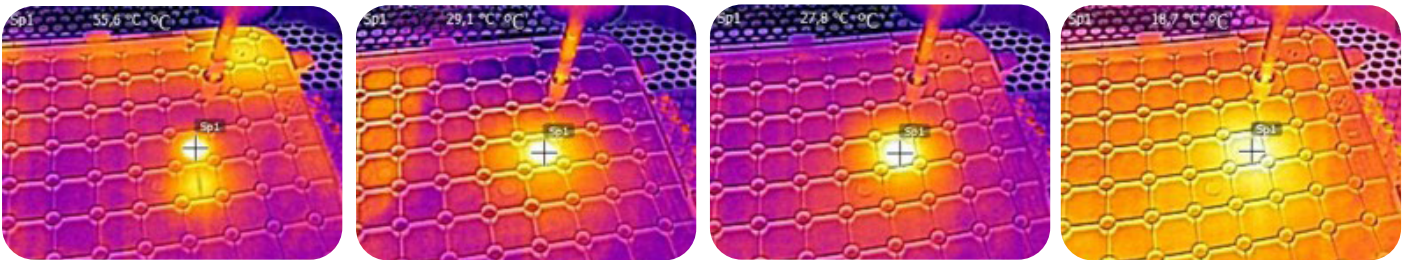
Improvement thermal dissipation using avanTHERMAL 440



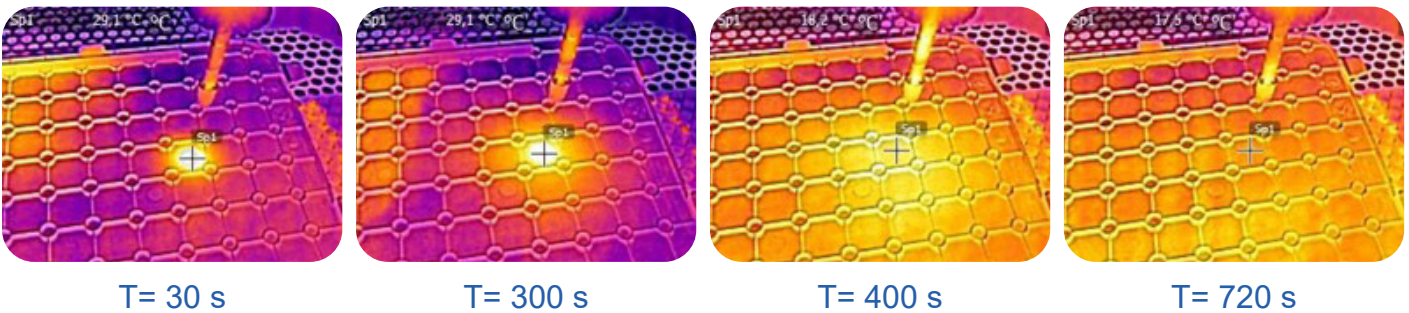


Example

Without avanTHERMAL 440:



With avanTHERMAL 440:



Electric underfloor heating

Rubber mat.: A small voltage apply in the rubber mat. Produces a thermal system for thermal flooring.

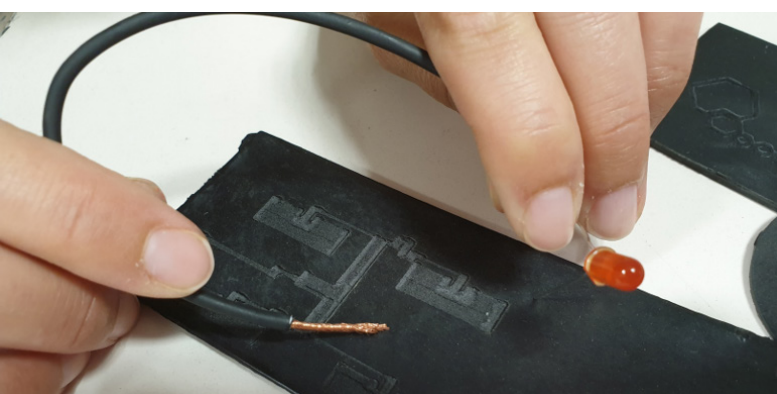
Comfortable for flooring.



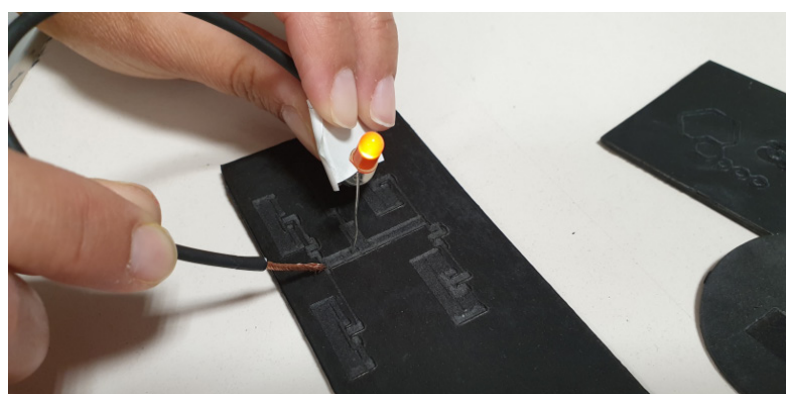
Laser activation

Flexible and embedded electronics, injection insulation pieces, active by lasering, generating embedded inductive circuits.

Applications: Antennas, circuits, flexible electronics, embedded electronics...

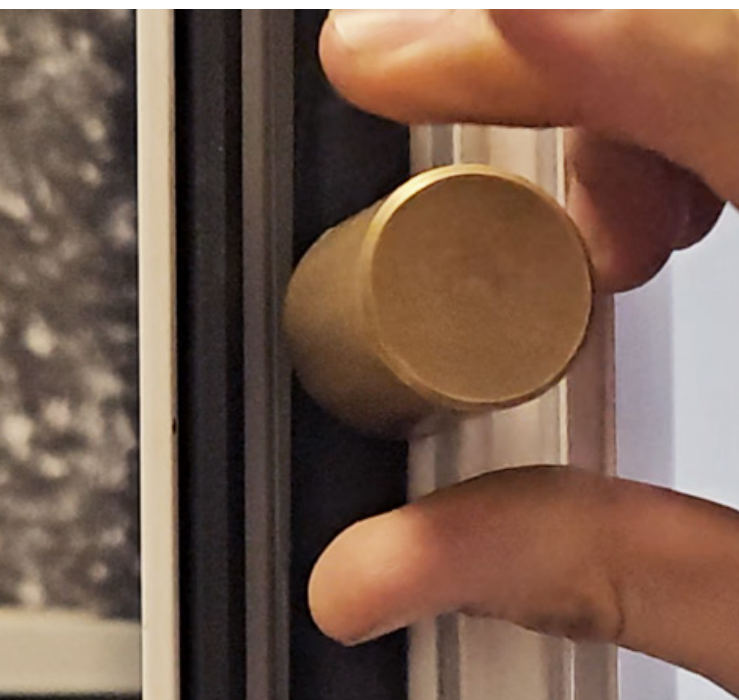


Insulative



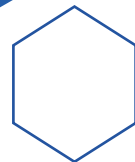
Conductor

Flexible magnetic rubber profile



Through the action of an electromagnet, the profile adheres to the door frame, closing the system hermetically.

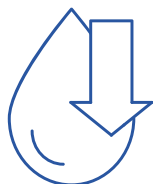
Nasika polymer bounds



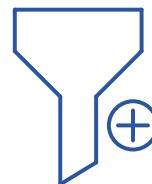
NASIKA grade predispersed products are of the highest quality.

They are characterized by their **low viscosity** and the **high degree of filtration** to which they are subjected. This level of filtration is tailored to the raw material to achieve better dispersion.

ADVANTAGES



Low viscosity



High filtration



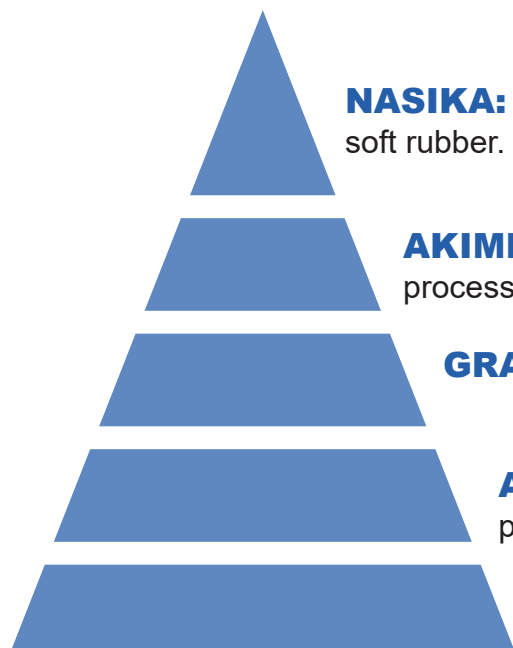
Reduction of time during the mixing process



Increase in productivity



Insurance for worker handling



NASIKA: Predispersed - Low viscosity and high filtration process MB, soft rubber.

AKIMIX: Predispersed - For hard rubber and with low filtration process.

GRANULATED: Dust reduction in the production process.

AKISAN: Moistened powder - Dust reduction in the production process.

AKISAN: Powder - General solution.

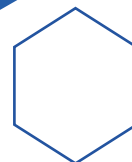


List of pre-dispersed polymer-bound additives

Rubber accelerators

	PRODUCT	CAS N°	CHEMICAL NAME	CONTENT	NITROSAMINE FREE
	Nasika CBS-75	95-33-0	BENZOTIAZIL-2-CYCLOHEXYL-SULFENAMIDE	75	Yes
	Nasika CBS-80	95-33-0	BENZOTIAZIL-2-CYCLOHEXYL-SULFENAMIDE	80	Yes
	Nasika CLD-75 (DTDC-75)	23847-08-7	1,1'-DITIOBIS[HEXAHI-DRO-1H-AZEPINA-2-ONA]	75	
	Nasika DDTS-70 (MPTD-70)	53880-86-7	N, N'-DIMETHYLDIPHENILTHIURAM DISULPHIDE	70	
	Nasika DOTG-70	97-39-2	1,3-DI-O-TOLYLGUANIDINE	70	Yes
	Nasika DPG-75	102-60-7	DIPHENYLGUANIDINE	75	Yes
	Nasika DPTT-70	971-15-3	DIPENTAMETHYLENETHIURAM TETRASULFID	70	
	Nasika DPTU-75	102-08-9	1,3-DIPHENYL-2-THIOUREA	75	Yes
	Nasika DTDC-80	2384708-7	CAPROLACTAM DISULFIDE	80	
	Nasika DTMT-75 (TMTD-75)	137-26-8	TETRAMETHYLTHIURAM DI-SULPHIDE	75	
	Nasika DTMT-80 (TMTD-80)	137-26-8	TETRAMETHYLTHIURAM DI-SULPHIDE	80	
	Nasika ETU-80	96-45-7	ETHYLENTHIOUREA	80	Yes
	Nasika HEXA-80	100-97-0	HEXAMETHYLENETETRAMINE	80	
	Nasika MBT-75	149-30-4	2-MERCAPTOBENZOTHIAZOLE	75	Yes
	Nasika MBT-80	139-30-4	2-MERCAPTOBENZOTHIAZOLE	80	Yes
	Nasika MBTS-75	120-78-5	2,2'-DITHIOBIS (BENZOTHIAZOLE)	75	Yes

Tailor-made pre-dispersed combinations of multiple components and accelerators are available upon request.



List of pre-dispersed polymer-bound additives

Rubber accelerators

	PRODUCT	CAS N°	CHEMICAL NAME	CONTENT	NITROSAMINE FREE
	Nasika MBTS-80	120-78-5	2,2'-DITHIOBIS (BENZOTHIAZOLE)	80	Yes
	Nasika MPTD-70	53880-86-7	N,N'-DIMETILDIFENILTURAM DISULFURO	70	
	Nasika NBR/MBTS-75	120-78-5	2,2'-DITHIOBIS (BENZOTHIAZOLE) – NBR BINDER	75	Yes
	Nasika NBR/ZBEC-70	14726-55-1	ZINC DIBENZYLDITHIOCARBAMATE – NBR BINDER	70	Yes
	Nasika NDBC-75	13927-77-0	NICKEL DIBUTYLDITHIOCARBAMATE	75	
	Nasika S80 HEXA	100-97-0	HEXAMETHYLENETETRAMINE – SBR BINDER	80	
	Nasika TBBS-75	95-31-8	N-TERT-BUTYL-2-BENZOTHIAZOLESULFENAMIDE	75	Yes
	Nasika TBBS-80	95-31-8	N-TERT-BUTYL-2-BENZOTHIAZOLESULFENAMIDE	80	Yes
	Nasika TBzTD-70	10591-85-2	TETRABENZYLTHIURAM DISULFIDE	70	Yes
	Nasika TETD-70	137-26-8	TETRAETILTURAM DISULFURO	70	
	Nasika TiBTD-50	56-80-0	TETRA(ISOBUTYL)THIOPE-ROXYDICARBAMIC ACID	50	
	Nasika TMTM-80	97-74-5	TETRAMETHYLTHIURAM MONOSULFIDE	80	
	Nasika ZBEC-70	14726-36-4	ZINC DIBENZYLDITHIOCARBAMATE	70	Yes
	Nasika ZDBC-75	136-23-2	ZINC-DIBUTYLDITHIOCARBAMATE	75	
	Nasika ZDEC-75	14324-55-1	ZINC-DIETHYLDITHIOCARBAMATE	75	
	Nasika ZDMC-75	137-30-4	ZINC-DIMETHYLDITHIOCARBAMATE	75	
	Nasika ZMBT-75	155-14-4	ZINC-2-MERCAPTOBENZOTHIAZOLE	75	

Tailor-made pre-dispersed combinations of multiple components and accelerators are available upon request.



List of pre-dispersed polymer-bound additives

Sulphur donors

	PRODUCT	CAS N°	CHEMICAL NAME	CONTENT
	Nasika DTDM-75	13-34-4	4,4'-DITHIODIMORPHOLINE	75
	Nasika IS-80	7704-34-9	INSOLUBLE SULPHUR	80
	Nasika IS-65	7704-34-9	INSOLUBLE SULPHUR	65
	SULPHOGRAN S-80	7704-34-9	SULPHUR	80
	Nasika ZBPD-50	6990-43-8	ZINC O, O-DIBUTYLPHOSPHORODITHIOATE	50
	Nasika ZDTP-50	85940-28-9	ZINC DIALKYLDITHIOPHOSPHATE	50

Anti-scorching agents

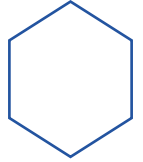
	PRODUCT	CAS N°	CHEMICAL NAME	CONTENT
	Nasika CTP-80 (PVI)	17796-82-6	N-(CYCLOHEXYLTHIO)PHTALIMIDE	75
	Nasika PTBS-80	2280-49-1	N-PHENYL-N-[(TRICHLOROMETHYL)THIO]BENZENESULPHONAMIDE	80

Metallic oxides

	PRODUCT	CAS N°	CHEMICAL NAME	CONTENT
	Nasika OZN-80	1314-13-2	ZINC OXIDE	80
	Nasika OZN ACTIVE-75	1314-13-2	ZINC OXIDE (ACTIVE)	75
	Nasika E80TiO2	13463-67-7	TITANIUM DIOXIDE	80

Tailor-made pre-dispersed combinations of multiple components and accelerators are available upon request.

Akimix polymer bounds



AKIMIX grade predispersed products have excellent dispersion.

AKIMIX grade predispersed products specially designed for hard rubber with reduced filtration process and higher viscosity.

ADVANTAGES




Reduction of time during the mixing process



Increase in productivity



Insurance for worker handling



Chemical predispersed solutions for rubber & plastic.



List of pre-dispersed polymer-bound additives

Rubber accelerators

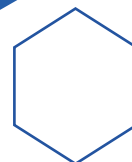
	PRODUCT	CAS N°	CHEMICAL NAME	CONTENT	NITROSAMINE FREE
	Akimix CBS-80	95-33-0	BENZOTIAZIL-2-CYCLOHEXYL-SULFENAMIDE	80	Yes
	Akimix MBT-80	149-30-4	2-MERCAPTOBENZOTHAZOLE	80	Yes
	Akimix MBTS-80	120-78-5	2,2'-DITHIOBIS (BENZOTHIAZOLE)	80	Yes
	Akimix ZDBC-80	136-23-2	ZINC DIBUTYLDITHIOCARBAMATE	80	
	Akimix ZDMC-80	137-30-4	ZINC-DIMETHYLDITHIOCARBAMATE	80	
	Akimix TBzTD-80	10581-85-2	TETRABENZYLTHIURAM DISULFIDE	80	Yes
	Akimix ZBEC	14726-36-4	ZINC DIBENZYLDITHIOCARBAMATE	80	Yes
	Akimix ZDEC	14324-55-1	ZINC DIETHYLDITHIOCARBAMATE	80	

Metallic oxides

	PRODUCT	CAS N°	CHEMICAL NAME	CONTENT
	Akimix OZN-80	1314-13-2	ZINC OXIDE	80

Antioxidant

	PRODUCT	CAS N°	CHEMICAL NAME	CONTENT
	Akimix MMBI-75	53988-10-6	2-MERCAPTO-4(OR 5)-METHYL BENZIMIDAZOLE	75



Sulphur donors

	PRODUCT	CAS N°	CHEMICAL NAME	CONTENT
	Akimix S-80	7704-34-9	SULPHUR	80

Anti-scorching agents

	PRODUCT	CAS N°	CHEMICAL NAME	CONTENT
	Akimix CTP-80 (PVI)	17796-82-6	N-(CYCLOHEXYLTHIO) PHTALAMIDE	80

Blowing agents

	PRODUCT	CAS N°	CHEMICAL NAME	CONTENT
	Akimix AZO-80	123-77-3	Azodicarbonamide	80
	Akimix OBSH-80	80-51-3	4,4'-oxydi(benzenesulphonohydrazide)	80



Easy dosing
& easy dispersion.

Nasika DB



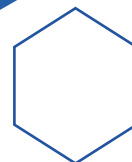
NASIKA DB are dry blends and chemical formulations for rubber.

Co - activator

PRODUCT	FAMILY	DESCRIPTION	%	FORMAT	CHEMICAL NAME
Nasika DB ACTI 70	NASIKA DB ACTI	Different grades of TRIM to increase the cross linking density of cured rubber compounds.	70	Powder	TRIM (trimethylol propane trimethacrylate)
Nasika DB ACTI 50			50	Powder	TRIM (trimethylol propane trimethacrylate)
Nasika DB ACTI L			100	Liquid	TRIM (trimethylol propane trimethacrylate)
Nasika DB TAC 70	NASIKA DB TAC	TAC dispersion, able to improve the physical properties and temperature resistance in highly saturated rubbers as a coagent in polyolefins.	70	Powder	Triallyl cyanurate
Nasika DB TAC 50		It could be use to reduce the radiation crosslinkes as acting like photosensitizer.	50	Powder	Triallyl cyanurate
Nasika DB TAIC 70	NASIKA DB TAIC	TAC dispersion, able to improve the physical properties and temperature resistance in highly saturated rubbers acting as auxiliary curing agent (EPDM, FKM, CM).	70	Powder	Triallyl isocyanurate
Nasika DB TAIC 50		Also is used as a coagent in crosslinked polyolefins and EVA.	50	Powder	Triallyl isocyanurate

Processing aids

PRODUCT	FAMILY	DESCRIPTION	FORMAT	COMPOSITION
Nasika DB DISPER 12	Nasika DB DISPER	It consists of dispersants that facilitate the mixing of additives in rubber.	Liquid	Silicone mixture
Nasika DB DISPER1000 70			Powder	Silicone mixture



List of auxiliar additives

Liquid polybutadiene

PRODUCT	FAMILY	DESCRIPTION	%	FORMAT	CHEMICAL NAME
Nasika DB PB12 65	NASIKA DB PB	Polybutadiene liquid has different uses in tires, sealants. Also as a coagent in EPDM (peroxide cured).	65	Powder	Polybutadiene 1,2
Nasika DB PB12			100	Liquid	Polybutadiene 1,2
Nasika DB PB14 50			50	Powder	Polybutadiene 1,4
Nasika DB PB14			100	Liquid	Polybutadiene 1,4

Coupling agents

PRODUCT	FAMILY	DESCRIPTION	%	FORMAT	CHEMICAL NAME
Nasika DB SI69 70	NASIKA DB SI69	Different grades of Silane SI-69 to improvement the curing properties of the rubber and specific properties such tensile strength, rolling and abrasion resistance.	70	Powder	SI-69 (Bis trimethoxy silyl propyl tetrasulfide)
Nasika DB SI69 50			50	Powder	SI-69 (Bis trimethoxy silyl propyl tetrasulfide)

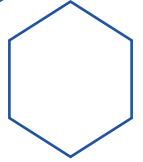
Anti-tack

PRODUCT	FAMILY	DESCRIPTION	%	FORMAT	CHEMICAL NAME
Nasika DB R01	Nasika DB RA	Anti-tack solution for rubber applications.	30	Liquid	Magnesium stearate
Nasika DB R02			45	Liquid	Zinc stearate
Nasika DB R03			45	Liquid	Calcium stearate

Desiccant

PRODUCT	FAMILY	DESCRIPTION	FORMAT	CHEMICAL NAME
Nasika DB CaO 95	Nasika DB CaO	Mineral desiccant filled rubber compounds to avoid the increase of porosity due the moisture and the lack of properties in the final rubber part.	Powder	Calcium oxide
Nasika DB CaO 85			Coated Powder	Calcium oxide

Akisan Powder



AKISAN accelerators products are the general solution.

The AKISAN line consists of **accelerators and other minor additives** for the rubber and plastic industry, available in both **powder** and **oil powder formats**. These products are very useful for a wide range of applications.

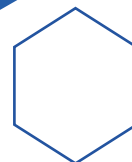
AKISAN Powder Solution

General solution for the vulcanization process.

AKISAN Moistened Powder

Dust reduction in the production process.





List of active additives

Rubber accelerators

PRODUCT	CAS N°	CHEMICAL NAME	FORMAT	NITROSAMINE FREE
Akisan CBS	95-33-0	BENZOTIAZIL-2-CYCLOHEXYL-SULFENAMIDE	Powder	Yes
Akisan CLD/D TDC	23847-08-7	DITHIOCAPROLACTANE;1,1'-DITIOBIS[HEXAHIDRO-2H-AZEPIN-2-ONE]	Powder	
Akisan DDTs	53880-08-7	N, N' – DIMETHYLDIPHENILTHIURAM DISULPHIDE	Oil powder	
Akisan DOTG	97-39-2	1,3-DI-O-TOLYLGUANIDINE	Powder	Yes
Akisan DPG	102-06-7	DIPHENYLGUANIDINE	Powder	Yes
Denax DPG	102-06-7	DIPHENYLGUANIDINE	Powder	Yes
Akisan ETU	96-45-7	ETHYLENTHIOUREA	Oil powder	Yes
Akisan HEXA	100-97-0	HEXAMETHYLENETETRAMINE	Powder	
Akisan MBT	149-30-4	2-MERCAPTOBENZOTHIAZOLE	Oil powder	Yes
Akisan MBTS	120-78-5	2,2'-DITHIOBIS (BENZOTHIAZOLE)	Powder	Yes
Akisan MPTD	53880-86-7	N,N'-DIMETILDIFENILTIURAM DISULFURO	Powder	
Akisan TBBS	95-31-8	N-TERT-BUTYL-2-BENZOTHIAZOLESULFENAMIDE	Powder	Yes
Akisan TBzTD	137-26-8	TETRABENZYLTHIURAM DISULFIDE	Powder	Yes
Akisan TIBTD	56-80-0	TETRA(ISOBUTYL)THIOPEROXYDICARBAMIC ACID	Granulated	
Akisan TMTM	97-74-5	TETRAMETHYLTHIURAM MONOSULFIDE	Oil powder	
Akisan ZBEC	14726-36-4	ZINC DIBENZYLDITHIOCARBAMATE	Oil powder	Yes
Akisan ZBEC	14726-36-4	ZINC DIBENZYL DITHIOCARBAMATE	Powder	Yes
Akisan ZDBC	136-23-2	ZINC-DIBUTYLDITHIOCARBAMATE	Powder	
Akisan ZDBC	136-23-2	ZINC-DIBUTYLDITHIOCARBAMATE	Oil powder	
Akisan ZDEC	14324-55-1	ZINC-DIETHYLDITHIOCARBAMATE	Powder	



List of active additives

Sulphur donors

PRODUCT	CAS N°	CHEMICAL NAME	FORMAT
IS Diamond Sulf OT 20HS	7704-34-9	INSOLUBLE SULPHUR	
SULPHUR 1	7704-34-9	SULPHUR	Powder
Akisan ZBPD	6990-43-8	ZINC O, O-DIBUTYLPHOSPHORODITHIOATE	Powder
Akisan ZDTP	85940-28-9	ZINC DIALKYLDITHIOPHOSPHATES	Powder

Anti-scorching agents

PRODUCT	CAS N°	CHEMICAL NAME	FORMAT
Akisan CPT	17796-82-6	N-(CYCLOHEXYLTHIO)PHTALIMIDE	Powder
Akisan PBTS	2280-49-1	N-PHENYL-N[(TRICHLOROMETHYL)THIO]BENZENESUL- PHONAMI	Powder

Metallic oxides

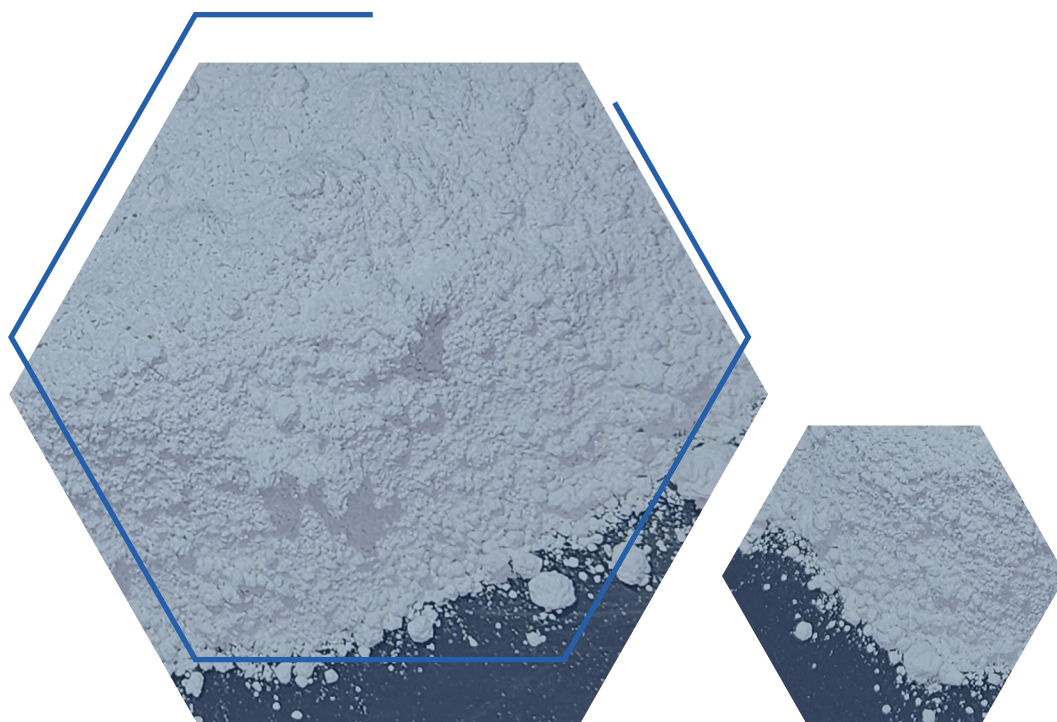
PRODUCT	CAS N°	CHEMICAL NAME	FORMAT
Akisan ZNO	1314-13-2	ZINC OXIDE	Powder



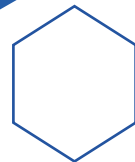
List of active additives

Other additives

PRODUCT	USES	CAS N°
PEG-4000	Processing aid	25322-68-3
Stearic acid	Processing aid	57-11-4
Sb ₂ O ₃	Flame retardant	1309-64-4
Zn Borate (ZB)	Flame retardant and smoke suppressor	1332-07-6
6PPD	Antioxidant	793-24-8
Akisan TMQ	Antioxidant	26780-96-1
Styrene-Indene Resin	Tactifying agent	
ZnO Active	Activator	1314-13-2
Paraffin Wax	Processing aid	
Antiozonante Waxes	Antiozonante	



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