AN CHEMICAL CORPORATION

(ANCC)

ANCC RUBBER ACCELERATOR

ANCC RUBBER ACCELERATOR

Grade	Category	Chemical Formula	CAS No.	EINECS No.
ANCL@ZMBT(MZ)	Thiazoles	$C_{14}H_8N_2S_4Zn$	155-04-4	205-840-3
ANCL@TBBS(NS)	Thiazoles	$C_{11}H_{14}N_2S_2$	95-31-8	202-409-1
ANCL@MBTS(DM)	Thiazoles	$C_7H_5NS_2$	149-30-4	205-736-8
ANCL@MBT(M)	Thiazoles	$C_7H_5NS_2$	149-30-4	205-736-8
ANCL@CBS(CZ)	Sulfenamides	$C_{13}H_{16}N_2S_2$	95-33-0	202-411-2
ANCL@DCBS(DZ)	Sulfenamides	$C_{19}H_{26}N_2S_2$	4979-32-2	225-625-8
ANCL@NOBS	Sulfenamides	$C_{11}H_{12}N_2S_2O$	102-77-2	203-052-4
ANCL@MBS	Sulfenamides	$C_{11}H_{12}N_2S_2O$	102-77-2	203-052-4
ANCL@ MOR	Sulfenamides	$C_{11}H_{12}N_2S_2O$	102-77-2	203-052-4
ANCL@DPG(D)	Guanidines	$C_{13}H_{13}N_3$	102-06-7	203-002-1
ANCL@DOTG	Guanidines	$C_{15}H_{17}N_3$	97-39-2	202-577-6
ANCL@TMTD(TT)	Thiurams	$C_6H_{12}N_2S_4$	137-26-8	205-286-2
ANCL@TMTM(TS)	Thiurams	$C_6H_{12}N_2S_3$	97-74-5	202-605-7
ANCL@DPTT(TRA)	Thiurams	$C_{12}H_{20}N_2S_8$	120-54-7	204-406-0
ANCL@TBzTD	Thiurams	$C_{30}H_{28}S_4N_2$	10591-85-2	404-310-0
ANCL@ZDEC(ZDC/EZ)	Dithiocarbamates	$C_{10}H_{20}N_2S_4Zn$	136-23-2	238-270-9
ANCL@ZDBC(BZ)	Dithiocarbamates	$C_{18}H_{36}N_2S_4Zn$	136-23-2	238-778-0
ANCL@ZDMC(PZ)	Dithiocarbamates	$C_6H_{12}N_2S_4Zn$	137-30-4	205-288-3
ANCL@ZBEC(DBZ)	Dithiocarbamates	$C_{30}H_{28}S_4ZnN_2$	14726-36-4	238-778-0
ANCL@ETU(NA-22)	Thioureas	$C_3H_6N_2S$	96-45-7	202-506-9
ANCL@DETU	Thioureas	$C_5H_{12}N_2S$	105-55-5	203-308-5
ANCL@DBTU	Thioureas	$C_9H_{20}N_2S$	109-46-6	203-674-6
ANCL@DPTU	Thioureas	$C_{13}H_{12}N_2S$	102-08-9	203-004-2

ANCL@ZMBT (MZ) - ZINC 2-MERCAPTOBENZOTHIAZOLE

White or light yellow powder with light bitter taste. Hardly soluble in acetone, benzene, ethanol, and carbon tetrachloride. Insoluble in water, gasoline. Decomposed in strong acid and alkali. Used for NR, IR, SBR, NBR, EPDM and latex. May be regarded as an intermediate between MBT and MBTS. Used as a secondary accelerator in combination with PZ and EZ. Similar performance as MBT at curing temperature in dry rubber application. Has lower scorch and better processing safety. Suitable for mold curing. Require zinc oxide and stearic acid as activators in many kinds of rubber batch. Easily disperses in rubber; yields non-staining and non-discoloring products. Mainly used in the manufacture of latex products, foam rubber, latex coating gloves, etc.

Grade	ZMBT-2		ZMBT-15	
Purity	99% Min		99% Min	
Synonyms	2-Mercaptobenzothiazole zinc salt - Zinc 2-benzothiazolethiolate			
CAS No.	155-04-4		155-04-4	
EINECS No.	205-840-3		205-840-3	
Chemical Formula	$C_{14}H_8N_2S_4Zn$		$C_{14}H_8N_2S_4Zn$	
Appearance	White or light-yellow	White or light-yellow	White or light-yellow	White or light-yellow
	Powder	Oiled Powder	Powder	Oiled Powder
Loss on drying (Max) ≤ %	0.40	0.40	0.40	0.40
Zn content, %	16.0-22.0	16.0-22.0	15.0-18.0	15.0-18.0
Residues on 150μm sieve (Max) ≤ %	0.10	0.10	0.10	0.10
Oil content, %	-	Customer Requirements	-	Customer Requirements
Free M content (Max) ≤ %	2.0	2.0	14.0-18.0	14.0-18.0
Packing	25 kg bag	25 kg bag	25 kg bag	25 kg bag
Shippment - Storage	Container tightly closed in a cool dry & well-ventilated		Container tightly closed in a cool dry & well-ventilated	
Safety Note	Avoiding exposure of the packaged product to direct sunlight		Avoiding exposure of the packaged product to direct sunlight	

ANCL®TBBS(NS) - N-TERT-BUTYL-2-BENZOTHIAZYL SULFENAMIDE

Without foul odor, but with bitter taste, easily soluble in benzene, carbon tetrachloride, ethylene chloride; soluble in gasoline, ethylacetate, ethanol, acetone; insoluble in water. The product posses the best scorching quality of sulfenamide type accelerators. Its scorching quality in natural rubber is better than DIBS, the operating safety is much better. Mainly used in manufacturing of tires, rubber belts and shock absorber.

Grade	TBBS-P1	TBBS-P2	TBBS-G1	Remark
Purity	99.7% MIN	99.7% MIN	99.7% MIN	
Synonyms	N-tert-Butyl-2-benzothiazolesulfenamide - N-tert-Butylbenzothiazole-2-sulphenamide			
CAS No.	95-31-8	95-31-8	95-31-8	
EINECS No.	202-409-1	202-409-1	202-409-1	
Chemical Formula	$C_{11}H_{14}N_2S_2$	$C_{11}H_{14}N_2S_2$	$C_{11}H_{14}N_2S_2$	
Appearance	Light yellow	Light yellow	Light yellow	
	Powder	Oiled Powder	Granular	
Initial M.P. (Min) ≥ °C	104.0	104.0	104.0	
Ash (Max) ≤ %	0.30	0.30	0.30	
Residue on 150μm sieve (Max) ≤ %	0.1	-	-	
Oil content, %	-	Customer Requirements	-	
Packing	25 kg bag	25 kg bag	25 kg bag	
Shippment - Storage	Container tightly closed in a cool dry & well-ventilated		Container tightly closed in a cool dry & well-ventilated	
Safety Note	Avoiding exposure of the packaged product to direct sunlight		Avoiding exposure of the packaged product to direct sunlight	

ANCL@MBTS (DM)- 2-MERCAPTOBENZOTHIAZOLE

Properties: Slightly foul odor and bitter taste, nonpoisonous. Soluble in ethyl acetone, acetone, dilute solution of sodium hydroxide and sodium carbonate, ethyl alcohol. Not easily soluble in benzene. Insoluble in water and gasoline. Used for NR, IR, SBR, NBR, HR and EPDM. One of the mainly used acidic accelerators currently and a medium fast primary accelerator. Imparts excellent aging properties, when used both alone and in combination with DM, TT and many others, mainly basic accelerators for higher activity. But care should be taken because it has a slight tendency to scorch. Unsuitable for use in the manufacture of food contact materials. Mainly used in the manufacture of tires, tubes, footwear, rubber belts and hoses etc.

Grade	MBTS-P1	MBTS-P2	MBTS -G1
Purity	99.7%	99.7%	99.7%
Synonyms	2-Benzothiazolethiol - Benzothiazole-2-thiol		
CAS No.	149-30-4		
EINECS No.	205-736-8		
Chemical Formula	$C_7H_5NS_2$	$C_7H_5NS_2$	$C_7H_5NS_2$
Appearance	Light yellow or grayish-white	Light yellow or grayish-white	Light yellow or grayish-white
	Powder	Oiled Powder	Granular
Initial M.P. (Min) ≥ °C	170	170	170
Loss on drying (Max) ≤ %	0.30	0.30	0.30
Ash (Max) ≤ %	0.30	0.30	0.30
Residue on 150µm sieve (Max) ≤ %	0.1	0.1	0.1
Oil content, %	-	Customer Requirements	-
Packing	25 kg bag	25 kg bag	25 kg bag
Shippment - Storage	Container tightly closed in a cool dry & well-ventilated		Container tightly closed in a cool dry & well-ventilated
Safety Note	Avoiding exposure of the packaged product to direct sunlight		Avoiding exposure of the packaged product to direct sunlight

ANCL®MBT (M) - 2-MERCAPTOBENZOTHIAZOLE

Slightly foul odor and bitter taste, nonpoisonous. Soluble in ethyl acetone, acetone, dilute solution of sodium hydroxide and sodium carbonate, ethyl alcohol. Not easily soluble in benzene. Insoluble in water and gasoline. Used for NR, IR, SBR, NBR, HR and EPDM. One of the mainly used acidic accelerators currently and a medium fast primary accelerator. Imparts excellent aging properties, when used both alone and in combination with DM, TT and many others, mainly basic accelerators for higher activity. But care should be taken because it has a slight tendency to scorch. Unsuitable for use in the manufacture of food contact materials. Mainly used in the manufacture of tires, tubes, footwear, rubber belts and hoses etc.

Grade	MBT-P1	MBT-P2	MBT-G1
Purity	99.7%	99.7%	99.7%
Synonyms	2-Benzothiazolethiol - Benzothiazole-2-thiol		
CAS No.	149-30-4	149-30-4	149-30-4
EINECS No.	205-736-8	205-736-8	205-736-8
Chemical Formula	$C_7H_5NS_2$	$C_7H_5NS_2$	$C_7H_5NS_2$
Appearance	Light yellow or grayish-white	Light yellow or grayish-white	Light yellow or grayish-white
	Powder	Oiled Powder	Granular
Initial M.P. (Min) ≥ °C	170	170	170
Loss on drying (Max) ≤ %	0.30	0.30	0.30
Ash (Max) ≤ %	0.30	0.30	0.30
Residue on 150µm sieve (Max) ≤ %	0.1	0.1	0.1
Oil content, %	-	Customer Requirements	-
Packing	25 kg bag	25 kg bag	25 kg bag
Shippment - Storage	Container tightly closed in a cool dry & well-ventilated		Container tightly closed in a cool dry & well-ventilated
Safety Note	Avoiding exposure of the packaged product to direct sunlight		Avoiding exposure of the packaged product to direct sunlight

ANCL®CBS (CZ) - N-CYCLOHEXYL-2-BENZOTHIAZOLE SULFONAMIDE

A slight odor. Soluble in benzene, chloroform, carbon disulfide; Insoluble in water. Application: A medium fast primary accelerator suitable for NR, IR, SBR, NBR, HR and EPDM. An outstanding delayed action accelerator. Be top effective and safe when used at ordinary processing temperatures, causing no scorches. Vulcanized show excellent physical property and quick complete. Usually used alone, when activated by D, TT and TS.

Grade	CBS-P1	CBS-P2	CBS-G1
Purity	99.7%	99.7%	99.7%
Synonyms	N-Cyclohexyl-2-benzothiazole sulfonamide - N-cyclohexylbenzothiazole-2-sulfenamide		
CAS No.	95-33-0	95-33-0	95-33-0
EINECS No.	202-411-2	202-411-2	202-411-2
Chemical Formula	$C_{13}H_{16}N_2S_2$	$C_{13}H_{16}N_2S_2$	$C_{13}H_{16}N_2S_2$
Appearance	Grayish-white	Grayish-white	Grayish-white
	Powder	Oiled Powder	Granular
Initial M.P. (Min) ≥ °C	98	97	97
Loss on drying (Max) ≤ %	0.40	0.50	0.40
Ash (Max) ≤ %	0.30	0.30	0.30
Residue on 150μm sieve (Max) ≤ %	0.1	0.1	-
Oil content, %	-	Customer Requirements	-
Packing	25 kg bag	25 kg bag	25 kg bag
Shippment - Storage	Container tightly closed in a cool dry & well-ventilated		Container tightly closed in a cool dry & well-ventilated
Safety Note	Avoiding exposure of the packaged product to direct sunlight		Avoiding exposure of the packaged product to direct sunlight

ANCL®DCBS (DZ) - N, N-Dicyclohexyl-2-Benzothiazole sulfenamide

Light yellow or light pink powder (granular) with taste bitter. Soluble Acetone Organic liquids, including fats and oils, insoluble in water. DCBS is a sulfenamide accelerator with excellent anti-scorching property and delayed onset of cure. It is compatible with natural and synthetic rubbers, suitable for radial ply tire, rubber belts and shock absorber, etc. Particularly it produces good adhesion to metal.

Grade	CBS-P1	CBS-P2	CBS-G1
Purity	99.6%	99.6%	99.6%
Synonyms	N,N-Dicyclohexyl-2-benzothiazolsulfene amide - N,N-Dicyclohexylbenzothiazole-2-sulfenamide		
CAS No.	4979-32-2	4979-32-2	4979-32-2
EINECS No.	225-625-8	225-625-8	225-625-8
Chemical Formula	$C_{19}H_{26}N_2S_2$	$C_{19}H_{26}N_2S_2$	$C_{19}H_{26}N_2S_2$
Appearance	Light yellow or light pink	Light yellow or light pink	Light yellow or light pink
	Powder	Oiled Powder	Granular
Initial M.P. (Min) ≥ °C	97	97	97
Loss on drying (Max) ≤ %	0.40	0.40	0.40
Ash (Max) ≤ %	0.40	0.40	0.40
Insoluble in cyclohexane (Max) ≤ %	0.5	0.5	0.5
Residue on 150μm sieve (Max) ≤ %	0.1	0.1	-
Oil content, %	-	Customer Requirements	-
Packing	25 kg bag	25 kg bag	25 kg bag
Shippment - Storage	Container tightly closed in a cool dry & well-ventilated		Container tightly closed in a cool dry & well-ventilated
Safety Note	Avoiding exposure of the packaged product to direct sunlight		Avoiding exposure of the packaged product to direct sunlight

ANCL@ NOBS (MBS/NOR) - N-OXYDIENTHYLENE-2-BENZOTHIAZOLE SULFENAMIDE

Light yellow or orange crystal (granular). No poison with a little odor of ammonia. Soluble in benzene, acetone. chloroform, insoluble in water and acid, alkali with lower concentration. An excellent delayed accelerator. The performance is similar as CZ with better scorch safety Widely used in NR, IR, SBR, NBR and EPDM. Can be used alone or with other vulcanization accelerators such as thiurams, guanidines and dithiocarbamates to improve the activity. Mainly used in manufacture of tires, shoes and belts.

Grade	NOBS-C1	NOBS -G1
Purity	99.7%	99.7%
Synonyms	2-Benzothiazolyl-N-morpholinosulfide - N-Oxydiethylene-benzothiazolesulfenamide	
CAS No.	102-77-2	102-77-2
EINECS No.	203-052-4	203-052-4
Chemical Formula	$C_{11}H_{12}N_2S_2O$	$C_{11}H_{12}N_2S_2O$
Appearance	Light yellow or orange crystal	Light yellow or orange crystal
	Crystal	Granular
Initial M.P. (Min) ≥ °C	80	80
Loss on drying (Max) ≤ %	0.50	0.50
Ash (Max) ≤ %	0.30	0.30
Insoluble in cyclohexane (Max) ≤ %	0.5	0.5
Packing	25 kg bag	25 kg bag
Shippment - Storage	Container tightly closed in a cool dry & well-ventilated	Container tightly closed in a cool dry & well-ventilated
Safety Note	Avoiding exposure of the packaged product to direct sunlight	Avoiding exposure of the packaged product to direct sunlight

ANCL®DPG(D) - DIPHENYL GUANIDINE

No odor or poison. Soluble in chloroform, toluene benzene and ethanol; Insoluble in gasoline and water. Not hygroscopic. Used as a secondary accelerator with thiazoles and sulphenamides in NR and SBR compounds. Exhibits better storage stability compared to thiuram and dithiocarbamates but is not so active. DPG can be used in latex as secondary gelling agent (foam stabilizer) in the silico-flouride foam process.

Grade	CBS-P1	CBS-P2	CBS-G1
Purity	99.99%	99.99%	99.99%
Synonyms	1,3-Diphenylguanidine		
CAS No.	102-06-7	102-06-7	102-06-7
EINECS No.	203-002-1	203-002-1	203-002-1
Chemical Formula	$C_{13}H_{13}N_3$	$C_{13}H_{13}N_3$	$C_{13}H_{13}N_3$
Appearance	Gray-white	Gray-white	Gray-white
	Powder	Oiled Powder	Granular
Initial M.P. (Min) ≥ °C	144.0	144.0	144.0
Loss on drying (Max) ≤ %	0.30	0.40	0.30
Ash (Max) ≤ %	0.30	0.40	0.30
Insoluble in cyclohexane (Max) ≤ %	0.5	0.5	0.5
Residue on 150μm sieve (Max) ≤ %	0.1	0.1	-
Oil content, %	-	Customer Requirements	-
Packing	25 kg bag	25 kg bag	25 kg bag
Shippment - Storage	Container tightly closed in a cool dry & well-ventilated		Container tightly closed in a cool dry & well-ventilated
Safety Note	Avoiding exposure of the packaged product to direct sunlight		Avoiding exposure of the packaged product to direct sunlight

ANCL@DOTG - DI-O-TOLYLGUANIDINE

Gray white powder (granular). Little bitter, no osmyl. Soluble chloroform, acetone, alcohol, lightly soluble in benzene, insoluble in water and gasoline. Suitable in NR, SNR, IIR, IR, SBR, NBR and CR. Seldom use alone, commonly with thiazoles, thiurams, dithiocarbamales and sulphenmides to promote its activity. Its critical temperature is 141 °C. This product is a plastic-decomposing agent in CR. However, this product is not suitable for food-related products or medical products.

Grade	CBS-P1	CBS-P2	CBS-G1
Purity	99.99%	99.99%	99.99%
Synonyms	1,3-Di-o-tolylguanidine		
CAS No.	97-39-2	97-39-2	97-39-2
EINECS No.	202-577-6	202-577-6	202-577-6
Chemical Formula	$C_{15}H_{17}N_3$	$C_{15}H_{17}N_3$	$C_{15}H_{17}N_3$
Appearance	Gray-white	Gray-white	Gray-white
	Powder	Oiled Powder	Granular
Initial M.P. (Min) ≥ °C	170.0	170.0	170.0
Loss on drying (Max) ≤ %	0.30	0.50	0.30
Ash (Max) ≤ %	0.30	0.30	0.30
Insoluble in cyclohexane (Max) ≤ %	0.5	0.5	0.5
Residue on 150μm sieve (Max) ≤ %	0.1	0.1	-
Residues on 63μm sieve (Max) ≤ %	0.50	0.50	-
Oil content, %	-	Customer Requirements	-
Packing	25 kg bag	25 kg bag	25 kg bag
Shippment - Storage	Container tightly closed in a cool dry & well-ventilated		Container tightly closed in a cool dry & well-ventilated
Safety Note	Avoiding exposure of the packaged product to direct sunlight		Avoiding exposure of the packaged product to direct sunlight

ANCL®TMTD(TT)- TETRAMETHYL THIURAM DISULFIDE

White or light gray powder (granular). Soluble in benzene, acetone, chloroform, CS 2 , partly soluble in alcohol, diethyl ether, CCI 4 , insoluble in water, gasoline and alkali with lower concentration. Meeting hot water becomes to dimethyl ammonium and CS 2 . Be sensitive to skin and peogaster. Can be used as a single accelerator, as a secondary accelerator or as a sulphur donor in most sulphur-cured elastomers. Scorch and gives fast cure rates. Produces an excellent vulcanization plateau with good heat aging and compression set resistance in sulphurless and EV cure systems. Good color retention is obtained in non-black vulcanization. A valuable secondary accelerator for EPDM. May be used as a retarder in the vulcanization of polychloroprene rubber with ETU and also be used as bactericide and pesticide.

Grade	TMTD-P1	TMTD-P2	TMTD-G1
Purity	99.7%	99.7%	99.7%
Synonyms	Bis(dimethylthiocarbamyl) disulfide - Tetramethylthiuram disulfide		
CAS No.	137-26-8	137-26-8	137-26-8
EINECS No.	205-286-2	205-286-2	205-286-2
Chemical Formula	$C_6H_{12}N_2S_4$	$C_6H_{12}N_2S_4$	$C_6H_{12}N_2S_4$
Appearance	White or light gray	White or light gray	White or light gray
	Powder	Oiled Powder	Granular
Initial M.P. (Min) ≥ °C	142.0	142.0	142.0
Loss on drying (Max) ≤ %	0.40	0.40	0.40
Ash (Max) ≤ %	0.30	0.40	0.40
Residue on 150μm sieve (Max) ≤ %	0.1	0.1	-
Oil content, %	-	Customer Requirements	-
Packing	25 kg bag	25 kg bag	25 kg bag
Shippment - Storage	Container tightly closed in a cool dry & well-ventilated		Container tightly closed in a cool dry & well-ventilated
Safety Note	Avoiding exposure of the packaged product to direct sunlight		Avoiding exposure of the packaged product to direct sunlight

ANCL®TMTM(TS)

The yellow powder (granule). The density is 1.37-1.40. No osmyl and no taste. Soluble in benzene, acetone,CH2CI2,CS2, toluene, party soluble in alcohol and diethyl ether, insoluble in gasoline and water Stabilization for storage Generally used as a secondary accelerator or as a booster for sulphenamides to achieve faster cure rate Distinguished by very good processing safety in comparison with other thiurams, high curing activity and no discoloration. No cure activilty in the absence of added elemental sulphur. An excellent accelerator for polychloroprene in association with DPG and Sulphur. It's critical temperature is 121°C.

Grade	TMTM-P1	TMTM-P2	TMTM-G1
Purity	98%	98%	98%
Synonyms	TS		
CAS No.	97-74-5	97-74-5	97-74-5
EINECS No.	202-605-7	205-286-2	205-286-2
Chemical Formula	$C_6H_{12}N_2S_3$	$C_6H_{12}N_2S_3$	$C_6H_{12}N_2S_3$
Appearance	Yellow	Yellow	Yellow
	Powder	Oiled Powder	Granular
Initial M.P. (Min) ≥ °C	104.0	104.0	104.0
Loss on drying (Max) ≤ %	0.40	0.40	0.40
Ash (Max) ≤ %	0.40	0.40	0.40
Residues on 63μm sieve, % ≤	0.50	0.50	-
Residue on 150μm sieve (Max) ≤ %	0.1	0.1	-
Oil content, %	-	0.0-2.0	-
Granular diameter mm	-	-	1.0-3.0
Packing	25 kg bag	25 kg bag	25 kg bag
Shippment - Storage	Container tightly closed in a cool dry & well-ventilated		Container tightly closed in a cool dry & well-ventilated
Safety Note	Avoiding exposure of the packaged product to direct sunlight		Avoiding exposure of the packaged product to direct sunlight

ANCL®DPTT (TRA)- Dipentamethylene Thiuramhexasulfide

Light yellow powder (granular). No taste, no poison. Soluble in chloroform, benzene, acetone, CS 2 , partly soluble in gasoline and CCl 4 insoluble in water and alkali of lower concentration. Secondary accelerator for NR, SBR, EPDM, and NBR. For rich sulphur content of 28%, it could be used as cure agent. In the system of SBR and NBR, it could be used the primary cure agent. No poison and no pollution. Easily dispersed in rubber system.

Grade	DPTT-P1	DPTT-P2	DPTT-G1
Purity	99.7%	99.7%	99.7%
Synonyms	Bis(pentamethylene)thiuram tetrasulfide - 1,1'-(Tetrathiodicarbonothioyl)-bis-piperidine		
CAS No.	120-54-7	120-54-7	120-54-7
EINECS No.	204-406-0	204-406-0	204-406-0
Chemical Formula	$C_{12}H_{20}N_2S_8$	$C_{12}H_{20}N_2S_8$	$C_{12}H_{20}N_2S_8$
Appearance	Light yellow	Light yellow	Light yellow
	Powder	Oiled Powder	Granular
Initial M.P. (Min) ≥ °C	113.0	112.0	112.0
Loss on drying (Max) ≤ %	0.20	0.50	0.20
Ash (Max) ≤ %	0.10	0.10	0.10
Residues on 63µm sieve (Max) ≤ %	0.50	0.50	-
Residue on 150µm sieve (Max) ≤ %	0.1	0.1	-
Oil content, %	-	Customer Requirements	-
Packing	25 kg bag	25 kg bag	25 kg bag
Shippment - Storage	Container tightly closed in a cool dry & well-ventilated		Container tightly closed in a cool dry & well-ventilated
Safety Note	Avoiding exposure of the packaged product to direct sunlight		Avoiding exposure of the packaged product to direct sunlight

ANCL@TBzTD - TETRABENZYLTHIURAM DISULFIDE

Light yellow powder (granular). No osmly and a little taste bitter. Soluble in acetone, alcohol, insoluble in Benzene, gasoline. Developed to replace thiurams such as TMTD where the presence of nitrosamines is of concern. The dibenzylnitrosamine is not carcinogenic according to published literature. A fast curing primary secondary accelerator in NR, SBR and NBR application. Be safer to progress, providing longer scorch times than TMTD. Sometime used as retarder in the vulcanization of PVC rubber.

Grade	DPTT-P1	DPTT-P2	DPTT-G1
Purity	99.7%	99.7%	99.7%
Synonyms	Tetrabenzylthiuramdisulfide		
CAS No.	10591-85-2	10591-85-2	10591-85-2
EINECS No.	404-310-0	404-310-0	404-310-0
Chemical Formula	$C_{30}H_{28}S_4N_2$	$C_{30}H_{28}S_4N_2$	$C_{30}H_{28}S_4N_2$
Appearance	Light yellow	Light yellow	Light yellow
	Powder	Oiled Powder	Granular
Initial M.P. (Min) ≥ °C	128.0	127.0	127.0
Loss on drying (Max) ≤ %	0.30	0.50	0.50
Ash (Max) ≤ %	0.30	0.30	0.40
Residues on 63μm sieve (Max) ≤ %	0.50	0.50	-
Residue on 150μm sieve (Max) ≤ %	0.1	0.1	-
Oil content, %	-	Customer Requirements	-
Packing	25 kg bag	25 kg bag	25 kg bag
Shippment - Storage	Container tightly closed in a cool dry & well-ventilated		Container tightly closed in a cool dry & well-ventilated
Safety Note	Avoiding exposure of the packaged product to direct sunlight		Avoiding exposure of the packaged product to direct sunlight

ANCL@ZDEC (ZDC/EZ)- ZINC DIETHYL DITHIOCARBAMATE

White powder (granular). No taste. Soluble in lower concentration alkali, CS 2, benzene, acetone and CH 2 Cl 2 , partly soluble in chloroform, insoluble in alcohol, CCl 4 and ethyl acetate. Used for NR, IR, BR, SBR, NBR, HR, EPDM and natural & synthetic latexes. Stronger accelerating power than TMTD. Strong resistance to scorching. In its handling, care should be operated, because of its increase activation and strong tendency to scorch at low temperatures (100 °C). Often used as a secondary accelerator. In latex, better results are obtained when used in combination with other types such as thiazole accelerators. Used for rubber coated fabrics, latex products and rubber cement, etc.

Grade	ZDEC-P1	ZDEC-P2	ZDEC-G1
Purity	99.7%	99.7%	99.7%
Synonyms	Zinc diethyldithiocarbamate - Zinc bis(diethyldithiocarbamate)		
CAS No.	136-23-2	136-23-2	136-23-2
EINECS No.	238-270-9	238-270-9	238-270-9
Chemical Formula	$C_{10}H_{20}N_2S_4Zn$	$C_{10}H_{20}N_2S_4Zn$	$C_{10}H_{20}N_2S_4Zn$
Appearance	White powder	White powder	White powder
	Powder	Oiled Powder	Granular
Initial M.P. (Min) ≥ °C	174.0	174.0	174.0
Loss on drying (Max) ≤ %	0.50	0.50	0.50
Zinc content, %	17.0-19.0	17.0-19.0	17.0-19.0
Residues on 63µm sieve (Max) ≤ %	0.50	0.50	-
Residue on 150µm sieve (Max) ≤ %	0.1	0.1	-
Oil content, %	-	Customer Requirements	-
Packing	25 kg bag	25 kg bag	25 kg bag
Shippment - Storage	Container tightly closed in a cool dry & well-ventilated		Container tightly closed in a cool dry & well-ventilated
Safety Note	Avoiding exposure of the packaged product to direct sunlight		Avoiding exposure of the packaged product to direct sunlight

ANCL@ZDBC (BZ)- ZINC DIBUTYL DITHIOCARBAMATE

White powder (granular). No taste. Soluble in lower concentration alkali, CS 2, benzene, acetone and CH 2 Cl 2 , partly soluble in chloroform, insoluble in alcohol, CCl 4 and ethyl acetate. Used for NR, IR, BR, SBR, NBR, HR, EPDM and natural & synthetic latexes. Stronger accelerating power than TMTD. Strong resistance to scorching. In its handling, care should be operated, because of its increase activation and strong tendency to scorch at low temperatures (100 °C). Often used as a secondary accelerator. In latex, better results are obtained when used in combination with other types such as thiazole accelerators. Used for rubber coated fabrics, latex products and rubber cement, etc.

Grade	ZDBC-P1	ZDBC-P2	ZDBC-G1
Purity	99.7%	99.7%	99.7%
Synonyms	Dibenzyldithiocarbamic acid zinc salt - Zinc bis(N,N-dibenzyldithiocarbamate)		
CAS No.	136-23-2	136-23-2	136-23-2
EINECS No.	238-778-0	238-778-0	238-778-0
Chemical Formula	$C_{18}H_{36}N_2S_4Zn$	$C_{18}H_{36}N_2S_4Zn$	$C_{18}H_{36}N_2S_4Zn$
Appearance	White powder	White powder	White powder
	Powder	Oiled Powder	Granular
Initial M.P. (Min) ≥ °C	174.0	174.0	174.0
Loss on drying (Max) ≤ %	0.50	0.50	0.50
Zinc content, %	17.0-19.0	17.0-19.0	17.0-19.0
Residues on 63µm sieve (Max) ≤ %	0.50	0.50	-
Residue on 150µm sieve (Max) ≤ %	0.1	0.1	-
Oil content, %	-	Customer Requirements	-
Packing	25 kg bag	25 kg bag	25 kg bag
Shippment - Storage	Container tightly closed in a cool dry & well-ventilated		Container tightly closed in a cool dry & well-ventilated
Safety Note	Avoiding exposure of the packaged product to direct sunlight		Avoiding exposure of the packaged product to direct sunlight

ANCL@ZDMC (PZ) - ZINC DIMETHYL DITHIOCARBAMATE

White powder (granular). No taste. Soluble in lower concentration alkali, CS 2 , benzene, acetone and CH 2 Cl 2 , partly soluble in chloroform, insoluble in alcohol, CCl 4 and ethyl acetate. Used for NR, IR, BR, SBR, NBR, HR, EPDM and natural & synthetic latexes. Stronger accelerating power than TMTD. Strong resistance to scorching. In its handling, care should be operated, because of its increase activation and strong tendency to scorch at low temperatures (100 °C). Often used as a secondary accelerator. In latex, better results are obtained when used in combination with other types such as thiazole accelerators. Used for rubber coated fabrics, latex products and rubber cement, etc.

Grade	ZDMC-P1	ZDMC-P2	ZDMC -G1
Purity	99.7%	99.7%	99.7%
Synonyms	Zinc bis dimethyldithiocarbamate		
CAS No.	137-30-4	137-30-4	137-30-4
EINECS No.	205-288-3	205-288-3	205-288-3
Chemical Formula	$C_6H_{12}N_2S_4Zn$	$C_6H_{12}N_2S_4Zn$	$C_6H_{12}N_2S_4Zn$
Appearance	White	White	White
	Powder	Oiled Powder	Granular
Initial M.P. (Min) ≥ °C	240.0	240.0	240.0
Loss on drying (Max) ≤ %	0.30	0.40	0.30
Zinc content, %	20.0-23.0	20.0-23.0	20.0-23.0
Residue on 150μm sieve (Max) ≤ %	0.1	0.1	-
Oil content, %	-	Customer Requirements	-
Packing	25 kg bag	25 kg bag	25 kg bag
Shippment - Storage	Container tightly closed in a cool dry & well-ventilated		Container tightly closed in a cool dry & well-ventilated
Safety Note	Avoiding exposure of the packaged product to direct sunlight		Avoiding exposure of the packaged product to direct sunlight

ANCL@ZBEC(DBZ)- ZINC DIBENZYL DITHIOCARBAMATE

White powder (granular). Soluble in alcohol, benzene and chloroform, insoluble in water. Safe-processing secondary accelerator. Can be used as primary in latex. High resistance to hydrolysis; low solubility in rubbers. Fast at higher vulcanization temperatures. Recognized to have low nitrosamine potential. Used in sheeting, extrusions and latex. Used in NR, IIR, SBR, and EPDM.

Grade	ZBEC-P1	ZBEC-P2	ZBEC-G1
Purity	99.6%	99.6%	99.6%
Synonyms	Dibenzyldithiocarbamic acid zinc salt - Zinc bis(N,N-dibenzyldithiocarbamate)		
CAS No.	14726-36-4	14726-36-4	14726-36-4
EINECS No.	238-778-0	238-778-0	238-778-0
Chemical Formula	$C_{30}H_{28}S_4ZnN_2$	$C_{30}H_{28}S_4ZnN_2$	$C_{30}H_{28}S_4ZnN_2$
Appearance	White	White	White
	Powder	Oiled Powder	Granular
Initial M.P. (Min) ≥ °C	180.0	178.0	178.0
Loss on drying (Max) ≤ %	0.40	0.50	0.40
Zinc content, %	10.0-12.0	10.0-12.0	10.0-12.0
Residues on 63μm sieve (Max) ≤%	0.50	0.50	-
Residue on 150μm sieve (Max) ≤ %	0.1	0.1	-
Oil content, %	-	Customer Requirements	-
Packing	25 kg bag	25 kg bag	25 kg bag
Shippment - Storage	Container tightly closed in a cool dry & well-ventilated		Container tightly closed in a cool dry & well-ventilated
Safety Note	Avoiding exposure of the packaged product to direct sunlight		Avoiding exposure of the packaged product to direct sunlight

ANCL@ETU (NA-22)- ETHYLENE THIOUREA

White powder. Soluble in alcohol, lightly soluble in water. No pollution to final products. Stabilization storage. Used for CH and W-type neoprene and chlorethanol rubber etc. Widely used for wires, cables, rubber, pipes, rubber shoes etc.; also used for anti-oxidants, pesticides and synthetic resins.

Grade	ZBEC-P1	ZBEC-P2
Purity	99.7%	99.7%
Synonyms	Ethlenethiourea - 1,3-Ethylenethiourea	
CAS No.	96-45-7	96-45-7
EINECS No.	202-506-9	202-506-9
Chemical Formula	$C_3H_6N_2S$	$C_3H_6N_2S$
Appearance	White	White
	Powder	Oiled Powder
Initial M.P. (Min) ≥ °C	195.0	195.0
Loss on drying (Max) ≤ %	0.30	0.50
Ash (Max) ≤%	10.0-12.0	10.0-12.0
Residues on 63µm sieve (Max) ≤%	0.50	0.50
Residue on 150µm sieve (Max) ≤ %	0.1	0.1
Oil content, %	-	Customer Requirements
Packing	25 kg bag	25 kg bag
Shippment - Storage	Container tightly closed in a cool dry & well-ventilated	Container tightly closed in a cool dry & well-ventilated
Safety Note	Avoiding exposure of the packaged product to direct sunlight	Avoiding exposure of the packaged product to direct sunlight

ANCL@DETU - N, N'-DIETHYL THIOUREA

White crystal (granular). Bitter taste. Easily soluble in chloroform, acetone and methanol. Soluble in benzene. Not easily soluble in water and gasoline. The most active thiourea for the vulcanization of CR. Gives rapid vulcanization at low, medium and high temperatures. Can be used to boost EPDM sulphur vulcanization systems. Particularly suited to high-speed C.V. processes.

Grade	DETU-P1	DETU-P2	DETU-G1
Purity	99.7%	99.7%	99.7%
Synonyms	N,N'-Diethylthiourea - 1,3-Diethyl-2-thiourea - N,N'-Diethyl-2-thiourea		
CAS No.	105-55-5	105-55-5	105-55-5
EINECS No.	203-308-5	203-308-5	203-308-5
Chemical Formula	$C_5H_{12}N_2S$	$C_5H_{12}N_2S$	$C_5H_{12}N_2S$
Appearance	White	White	White
	Crystal	Oiled Crystal	Granular
Initial M.P. (Min) ≥ °C	74.0	74.0	74.0
Loss on drying (Max) ≤ %	0.30	0.50	0.30
Ash (Max) ≤%	0.30	0.40	0.30
Residues on 840 µm sieve, %	0.00	0.00	-
Oil content, %	-	Customer Requirements	-
Packing	25 kg bag	25 kg bag	25 kg bag
Shippment - Storage	Container tightly closed in a cool dry & well-ventilated		Container tightly closed in a cool dry & well-ventilated
Safety Note	Avoiding exposure of the packaged product to direct sunlight		Avoiding exposure of the packaged product to direct sunlight

ANCL®DBTU - N, N-DI-N-BUTYLTHIOUREA

White crystalline powder. Soluble in alcohol, partly soluble in diethyl ether, insoluble in water. DBTU is an ultra-accelerator for mercaptan-modified CR (1-3phr). It has a vulcanization behavior similar to that of ETU and DETU. It is also used as a second accelerator for NR and synthetic rubbers. It disperses easily in rubber. It is non-staining and does not bloom. It is practically odorless antioxidant for NR, antiozonant for NR and SR, particularly for SBR. It is also a corrosion inhibitor.

Grade	DBTU-G1	DBTU-P1
Purity	99.7%	99.7%
Synonyms	1,3-dibutyl-2-thio-ure - 1,3-Di-N-butyl-2-thiourea - N,N'-dibutyl-thioure	
CAS No.	109-46-6	109-46-6
EINECS No.	203-674-6	203-674-6
Chemical Formula	$C_9H_{20}N_2S$	$C_9H_{20}N_2S$
Appearance	White crystalline	White
	Powder	Granular
Initial M.P. (Min) ≥ °C	60.0	60.0
Loss on drying (Max) ≤ %	0.30	0.50
Ash (Max) ≤%	0.30	0.30
Residues on 840 µm sieve, %	0.00	0.00
Oil content, %	-	-
Packing	25 kg bag	25 kg bag
Shippment - Storage	Container tightly closed in a cool dry & well-ventilated	Container tightly closed in a cool dry & well-ventilated
Safety Note	Avoiding exposure of the packaged product to direct sunlight	Avoiding exposure of the packaged product to direct sunlight

ANCL@DPTU - N-N'-DIPHENYLTHIOUREA

White powder. A little bitter, flammability, almost no poison. Soluble in alcohol, diethyl ether, acetone, cyclohexanone,tetrohydrofuran, partly soluble in all PVC plasticizers, insoluble in water and CS 2 . Soluble in alkali solutions and precipitation from acid solutions. Medium-speed vulcanization accelerator. Synergy with sulfur donor to boost vulcanization when used in NR and SBR. Need zinc oxide to be effective. Used as secondary accelerator in CR vulcanization and EPDR vulcanization system. Used in latex products, cables and general industrial products. Its critical temperature is 80 ^{O}C, so could be used as raw materials for pharmaceutical and dye and the test reagent for Os and Rh.

Grade	DPTU-P1	DPTU-P2
Purity	99.7%	99.7%
Synonyms	N-N'-Diphenylthiourea - 1,3-Diphenyl-2-thiourea - sym-Diphenylthiourea	
CAS No.	102-08-9	102-08-9
EINECS No.	203-004-2	203-004-2
Chemical Formula	$C_{13}H_{12}N_2S$	$C_{13}H_{12}N_2S$
Appearance	White	White
	Powder	Oiled Powder
Initial M.P. (Min) ≥ °C	148.0	148.0
Loss on drying (Max) ≤ %	0.30	0.50
Ash (Max) ≤ %	0.30	0.30
Residues on 63μm sieve (Max) ≤%	0.50	0.50
Residue on 150μm sieve (Max) ≤ %	0.1	0.1
Oil content, %	-	Customer Requirements
Packing	25 kg bag	25 kg bag
Shippment - Storage	Container tightly closed in a cool dry & well-ventilated	Container tightly closed in a cool dry & well-ventilated
Safety Note	Avoiding exposure of the packaged product to direct sunlight	Avoiding exposure of the packaged product to direct sunlight

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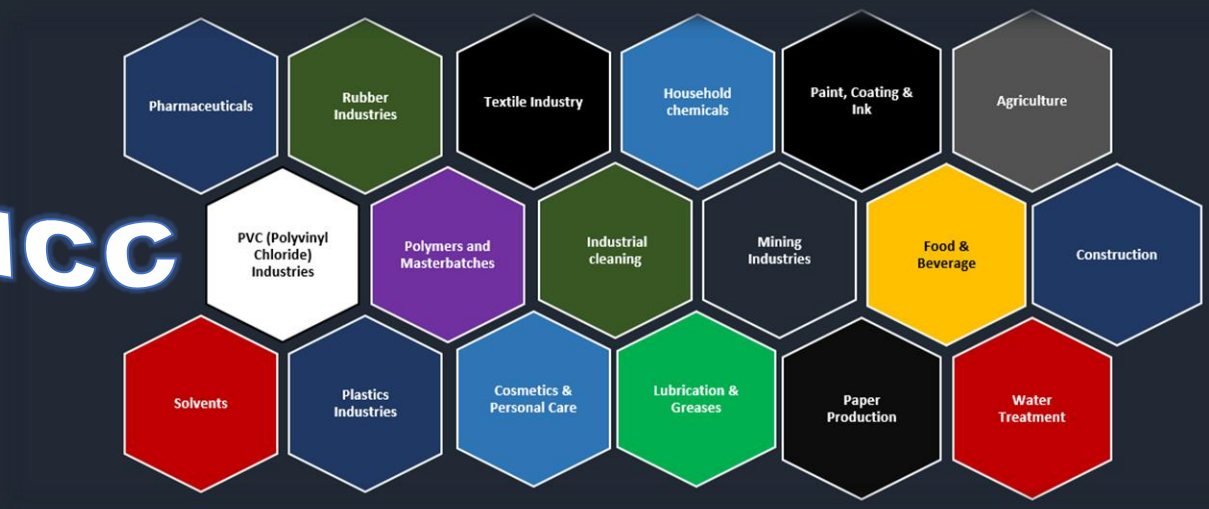

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