YASHO INDUSTRIES

RUBBER CHEMICALS

COMPANY PROFILE

Incorporated in the year 1985, **Yasho Industries** commenced exclusive operations in 1993 for aromatic chemicals. Since inception, the look ahead strategy has resulted in the company setting up a **dedicated plant for the production of Rubber Chemicals.**

Yasho's state-of-the-art technology and capacious manufacturing facility comprise **Glass and Stainless Steel Reactors** of volumes ranging from 45 - 25,000 litres and is equipped for manufacture of a wide range of **Speciality** & **Fine** chemicals such as **Antioxidants, Rubber** and **Aroma** chemicals.

Sustained focus on **technological upgradation** has helped the company to accelerate growth. Yasho specializes in scaling up to meet **customer-specific** requirements and expectations.

As a company , we take great pride in contributing to the communities where we live and work in harmony with the environmental needs.

QUALITY CONTROL

DESIGN PROCESS
DEVELOP PRODUCT

Research and Development is our core strength. **Continuous Innovation, Process Upgradation** and **Product Enhancement** complement our vast experience of over 2 decades . Investments in R & D are an integral part of our progress.

Endorsed by **Bureau Veritas**, our quality assurance meets the most stringent **ISO 9001-2008** norms. Our products find wide acceptance in **North and South America, Europe, Africa and Asia.**

Our state-of-the-art laboratory uses modern quality control methods and sophisticated instrumentation such as **HPLC, GC, AAS (Atomic Absorption Spectrophotometer), UV Spectrophotometer, Digital Polarimeter.**

QUREACC CDMC

Chemical Name	Copper Dimethyl Dithiocarbamate
CAS RN	137-29-1
Molecular Weight	467.47
Applications	QUREACC CDMC is used in SBR, IIR and EPDM as ultra accelerator for high speed vulcanization. Generally used with thiazole modifier to control scorch rate. Not recommended for natural rubber.

QUREACC DOTG

Chemical Name	Di-Ortho-Tolylguanidine
CAS RN	97-39-2
Molecular Weight	239.32
Applications	QUREACC DOTG causes very slow onset and a relatively slow rate of cure. QUREACC DOTG when used on its own gives a stronger reversion in NR. When used in combination with benzimidazole, sulphenamide, thiuram and dithiocarbamate accelerators, reciprocal activation and secondary acceleration can be achieved. Crosslinking density and rate of cure are increased. Good mechanical properties and good ageing resistance are obtained. Strongly recommended for polyacrylic rubbers. Has tendency to bloom in the vulcanization process.

QUREACC DPG

Chemical Name	Diphenyl Guanidine
CAS RN	102-06-7
Molecular Weight	211
Applications	QUREACC DPG gives very long scorch time and relatively slow full cure. It causes slight discolouration and cannot be used in light coloured articles, except as an activator. When QUREACC DPG is used on its own, the resistance of the vulcanizates to hot air and oxygen is poor. Accelerator of the mercapto types are strongly activated by QUREACC DPG.

QUREACC DPTT

Chemical Name	Dipentamethylene Thiuram Tetrasulfide
CAS RN	120-54-7
Molecular Weight	385
Applications	QUREACC DPTT causes a very rapid and scorch safe vulcanization of natural and synthetic rubbers, in combination with mercapto and suphenamide accelerators. QUREACC DPTT is used as sulphur donor in EPDM and IIR. QUREACC DPTT as sulphur donor provides heat resistance. It is widely used in extruded EPDM profiles, hoses and IIR moulded products.

QUREACC ETU

Chemical Name	Ethylenethiourea
CAS RN	96-45-7
Molecular Weight	102.16
Applications	Generally recommended for CR and Chlorobutyl compounds. Suggested dosage 0.5 – 1.0 phr to improve process safety and physical properties. For better physical properties, ETU is recommended for addition after the compound has matured.

QUREACC MPTD

Chemical Name	Dimethyl Diphenyl Thiuram Disulfide
CAS RN	53880-86-7
Molecular Weight	365
Applications	Qureacc MPTD is an ultra fast accelerator which is used alone or in combination with thiazoles and sulphenamides. MPTD is activated by basic accelerators such as DPG/DOTG and ETU. MPTD gives excellent heat and reversion resistance and very good compression set in sulphurless curing. Tendency for blooming is lower than TMTD or TMTM. No discolouration of vulcanizates.

QUREACC SDBC

Chemical Name	Sodium Dibutyldithiocarbamate
CAS RN	136-30-1
Molecular Weight	—
Applications	Fast primary and secondary accelerator in latex. Can rapidly prevulcanise latex compounds. Gives light colour and good transparency in unfilled vulcanisates. Easily added by simple dilution and stirring Good solubility in the polymer Suited to injection and transfer moulding. Synergises with TETD to give low modulus compounds from CR latex. Used in NR, CR latex

QUREACC TBBS

Chemical Name	Tert-Butyl Benzothiazole Sulphenamide
CAS RN	95-31-8
Molecular Weight	238.37
Applications	Delayed action accelerator. Provides good scorch safety in highly reinforced tyre compounds, without sacrificing cure rate. Vulcanisates will have good physical and ageing properties and enhanced reversion resistance. Typically one can reduce dosage by 10% in TBBS than with CBS.

QUREACC TBzTD

Chemical Name	Tetrabenzylthiuram Disulfide
CAS RN	10591-85-2
Molecular Weight	544
Applications	QUREACC TBzTD is used as a fast curing primary accelerator or as a secondary accelerator in NR, SBR and NBR. It is also used in polychloroprene as a retarder. It is a safe secondary amine accelerator. TBzTD has been developed to replace thiurams such as TMTD in cases where the presence of harmful nitrosoamines is of concern. Nitrosodibenzylamine (reaction product of TBzTD) is not carcinogenic, according to published literature.

QUREACC TETD

Chemical Name	Tetraethylthiuram Disulfide
CAS RN	97-77-8
Molecular Weight	296.55
Applications	Qureacc TETD functions as a primary accelerator for cure systems requiring very low or no free sulphur.

QUREACC TMT

Chemical Name	Tetramethylthiuram Disulfide
CAS RN	137-26-8
Molecular Weight	240.43
Applications	Widly used with natural and synthetic rubbers for the manufacture of automobile and bicycle tyres/tubes and other technical goods, conveyor/transmission belting, retreading material, footwear, hot air cured products and miscellaneous moulded and extruded rubber products.

QUREACC TMTM

Chemical Name	Tetramethylthiuram Monosulfide
CAS RN	97-74-5
Molecular Weight	208
Applications	TMTM causes very rapid and scorch safe vulcanization of natural & synthetics rubbers. Recommended in NR, SBR, butyl, nitrile and polychloroprene rubbers. It is commonly used as sulphur donor to get excellent after ageing properties.

QUREACC ZBEC

Chemical Name	Zinc Dibenzyldithiocarbamate
CAS RN	14726-36-4
Molecular Weight	610
Applications	QUREACC ZBEC is a very fast primary or secondary accelerator for natural and synthetic rubbers. It is non staining, non discoloring and is safer processing then ZDBC. It is also useful as a secondary accelerator for the continuous vulcanization of butyl rubber extrusions. ZBEC has found usefulness in minimizing harmful nitrosoamines. Nitrosodibenzylamine is anticipated to be a non-carcinogenic, according to published literature.

QUREACC ZDBC

Chemical Name	Zinc Dibutyl Dithiocarbamate
CAS RN	136-23-2
Molecular Weight	474
Applications	Used in Manufacture of Natural/Synthetic latex based products, NR/IR based transparent moulded products and as a secondary accelerator for the manufacture of bloom free EPDM moulded and extruded rubber products.

QUREACC ZDC

Chemical Name	Zinc Diethyl Dithiocarbamate
CAS RN	14324-55-1
Molecular Weight	362
Applications	Recommended in manufacture of Natural/Synthetic Rubbers, latex-based products and white- coloured rubber products. Suggested as a booster accelerator and recommended for EPDM rubber-based extruded & moulded products.

QUREACC ZDMC

Chemical Name	Zinc Dimethyldithiocarbamate
CAS RN	137-30-4
Molecular Weight	305.82
Applications	Used in Natural and Synthetic rubbers. Active over a wide temperature range. Generally requires a thiazole modifier for safe processing and wide curing range. Non-discoloring in light stocks.

QUREACC ZEPC

Chemical Name	Zinc ethyl phenyl dithiocarbamate
CAS RN	14634-93-6
Molecular Weight	458
Applications	QUREACC ZEPC is fast curing primary or secondary accelerator for Natural and Synthetic rubber. It can be used in vulcanizing natural rubber, with enhanced scorch time. Especially suitable for curing NR latex and NR adhesive latices where extended shelf-life of cement is desired.

QUREACC ZPD

Chemical Name	Zinc Pentamethylene dithiocarbamate
CAS RN	13878-54-1
Molecular Weight	386
Applications	QUREACC ZPD is a safe processing Accelerator in NR Latex as compared to ZDC and ZDMC. NR compounds with ZPD has longer shelf life at room temperature. ZPD is non staining and has less tendency to bloom as compared to ZDC and ZDMC. It is activated by MBTS and vice- versa. Gives higher state of cure in NR compounds at 120-150°C. Used as safe ultra accelerator in NR. Used in applications such as NR based Footwear, NR Retreading Compounds, NR Latex Goods.

QUREANTI ADA

Chemical Name	Aromatic Derivative of Diphenylamine
CAS RN	10081-67-1
Molecular Weight	---------
Applications	Qureanti ADA is substituted diphenylamine. It is available as light cream coloured powder. It is non-staining and non-disclouring type of antioxidant. Especially suited for EPDM, polyacrylic rubber, HNBR, CR and NBR. It also finds use as antioxidant in plastic and lube oils. Qureanti ADA provides excellent heat ageing properties in EPDM. This antioxidant is the Material of choice for Super high heat resistants EPDM conveyor belts. It is very useful in peroxide cured products. It is highly recommended in Polyacrylic rubber moulded products and in HNBR auto products for improved heat resistance.

QUREANTI MB

Chemical Name	2- Mercaptobenzimidazole
CAS RN	583-39-1
Molecular Weight	150.21
Applications	QUREANTI MB is a very strong non-staining antioxidant for Natural and most Synthetic rubbers. It offers extremely good heat and flex protection at elevated temperatures and provides an excellent synergistic effect in combination with OCD/TDQ type of antioxidants. For non black applications, combination of 1 phr MBI with 0.5 to 1 phr OCD is recommended. This combination is very effective for EPDM and NBR based products. For Black applications, where staining is acceptable, a combination of 1 phr MBI with 1 phr TDQ gives very high retention of physical properties, particularly in SBR and EPDM. In areas where TDQ as Antioxidant, it is possible to reduce the dosage by 50% with MBI is used alone and still obtain higher retention of physical properties after ageing. This product is also found to be effective in NR latex based products.

QUREANTI MMB

Chemical Name	2-Mercaptotoluimidazole / 4 & 5 - methyl - 2 - mercaptobenzimidazole
CAS RN	53988-10-6
Molecular Weight	165.25
Applications	QUREANTI MMB is used mainly as synergist for other antioxidants. It is particularly suitable for compounds containing ultra accelerators as well as heat resistant mixes without sulphur but with TMTD. Suitable for all kinds of white and coloured rubber articles.

QUREANTI NDBC

Chemical Name	Nickel dibutyldithiocarbamate
CAS RN	13927-77-0
Molecular Weight	467.47
Applications	NDBC works as non-extractable antiozonant/antioxidant for NBR <SBR PBR and polychloroprenes. It also useful as antioxidant in EPDM rubbers and Epichlorohydrin rubbers. NDBC is non-staining. Not recommended for NR.

QUREANTI OCD

Chemical Name	Octylated Diphenylamine
CAS RN	101-67-7
Molecular Weight	393
Applications	Qureanti OCD is an antioxidant available in either powder or flakes form. It is very slightly staining antioxidant. It provides excellent protection against degradation due to heat and oxygen and is especially useful in polychloroprene rubbers. At 1.5 phr levels OCD provides heat ageing resistance where as at 3 phr levels it provides in addition antiflex resistance in polychloroprene rubber. OCD also reduces scorching tendency in polychloroprene and reduces bin scorch. OCD is a synergistic combination with Qureanti ZMMB in NR and other synthetic rubber. It does not show any tendency to bloom & hence preferred in light coloured products. Some of the typical application of OCD include footwear, moulded heels and soles, polychloroprene belts, automotive parts and latex foam.

QUREANTI ZMB

Chemical Name	Zinc 2-Mercaptobenzimidazole
CAS RN	3030-80-6
Molecular Weight	363.80
Applications	Mainly use as an antioxidant for rubber. The properties are same as MB, but it is better than MB in properties such as reducing the instability of latex. ZMB is non-extractable Antioxidant. It is a good heat sensitizer and gel forming agent.

QUREANTI ZMMB

Chemical Name	Zinc 2-Mercapto-toluimidazole / Zinc Salt of 4 – and – 5 methyl mercaptobenzimidazole
CAS RN	61617-00-3
Molecular Weight	------
Applications	Used as a discoloring, non staining antioxidant for NR and SR Particularly in EPDM and Nitrile Rubber. ZMMB is non-extractable Antioxidant.

SPECIALITY CHEMICALS

QURECURR DTDM

Chemical Name	4,4'-Dithiodimorpholine
CAS RN	103-34-4
Molecular Weight	236.36
Applications	Under normal curing conditions QURECURR DTDM liberates free sulphur which in contrast to normal sulphur mainly forms mono & sulphide bridges. These are responsible for excellent heat ageing resistance of vulcazinetes. QURECURR DTDM cause no blooming effects, which are generally observed when using thiurumdisulphide as cross link agent & stand out for their increase storch properties. QURECURR DTDM is recommended whenever favorable compression set behaviour and better ageing behaviour is required. QURECUR DTDM is widely used in articles resistant to reversion in NR products such as tyre carcesses & age resistant articles based on SBR, NBI & EPDM.

YAPOX - 2245

Chemical Name	1,4 – Benzendiol – 2,5 bis- (1,1 – dimethyl ether)
CAS RN	88-58-4
Molecular Weight	222.32
Applications	Antioxidants for Urethanes, Rubber, Insecticidal Fumigants & Lubricants. Antistain agent for Photographic Paper.

YAPOX - 2275

Chemical Name	Di-Tert-Amylhydroquinone , 2,5-bis(1,1-dimethylpropyl)-1,4 -benzenediol
CAS RN	79-74-3
Molecular Weight	250.38
Applications	Primary antioxidant / stabilizer for synthetic rubbers acrylonitrile (NBR) especially effective against sunlight. Good drying / tack inhibitor in rubber adhesive and tapes.

YASHO INDUSTRIES

Looking Ahead

DEPLOY YASHO WORLDWIDE

YASHO
INDUSTRIES

H.O. : 31-H, Laxmi Industrial Estate, New Link Road, Andheri (W), Mumbai 400 053. INDIA
Tel : 91 . 22 . 66929152, 66929153, 26310350, Fax : 91 . 22 . 66929154

Plant Unit I : Plot No.2514-2515, Phase IV, GIDC, Vapi - 396 195, Gujarat, INDIA
Plant Unit II : Plot No.1713, Phase III, GIDC, Vapi – 396195, Gujarat, INDIA

E-mail : **info@yashoindustries.com**

www.yashoIndustries.com