

Zochem



Certainty
starts *here*.

Corporate
Brochure



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About Us

As the largest dedicated producer of zinc oxide in North America, Zochem is not only a leading supplier—but a trusted advisor—to customers in mature and emerging industries across the U.S. and Canada.

We manufacture zinc oxide for every application—from tires and rubber to pharmaceuticals and alternative batteries—using the highly efficient, low-CO₂-emission French Process. And because Zochem is dedicated solely to the production of Zinc Oxide, the subject has our full and unwavering attention.

We think ahead. We plan proactively. We continue to invest in our technology and processes, developing new and more efficient ways to guarantee quality, consistency and supply for every customer spec and application. Through our Fluency Initiative, we offer product training and consultation to procurement, R&D, and technical experts in any field that employs Zinc Oxide—in order to elevate and advance the industry's use of this versatile and vital resource.

Zochem delivers beyond the commodity. We focus on The Four C's to ensure continuity, communication, certainty, and consultation.

Certainty - Of quality, consistency, and supply - for every application and specification.

Continuity - We're an easy partner to work with. No issues!

Communication - Honest and clear, proven through excellent customer service.

Consultation - Advice from the industry leader.



Facilities & History

Brampton, ON, Canada

Established in 1974, Zochem was deemed “new again” in 2013 through a \$21M plant investment which focused on capacity expansion and an improved carbon footprint.

The facility operates with muffle furnaces 24/7/365 that have been sized and designed for the ability to flex with customer and economic demand, while not compromising the CO2 per metric ton of zinc oxide produced.

The facility is ISO 9001 and 14001 certified. It also holds certifications by the FDA and Health Canada, the latter providing the European ICH Q7A equivalence.

Long recognized by French Process zinc oxide users for its reliability, Zochem Brampton’s facility includes a succinct process flow from raw material receipt (rail or truck) to finished product shipment that aligns with the fundamentals of lean methodology. Reduction of waste (“muda”) is a common topic which starts with the emphasis on safety, then automatically generates improvements in quality, productivity, and environmental compliance.

This facility’s employees know their customers. They have over 37 years of service and commitment to Brampton and know what, when, and why their customers want what they do.

The last lost time injury at the facility was in 2011. Yes, 2011. What do both facilities have most in common? The PEOPLE. Dedicated and safety conscious.



Dickson, TN

When Zinc Oxide LLC launched in 2014, it was North America's newest manufacturer of French Process zinc oxide, with our Dickson location being the first zinc oxide plant to come online in North America in over 20 years.

During the growing years, Dickson matured in partnership with our valued customers through invited audits. We also obtained ISO and Food and Drug Administration (FDA) certifications.

The facility operates 24/7/365 with muffle furnaces that are designed through our in-house knowledge of refractory, heat transfer, and metallurgical engineering with each iteration of the muffle requiring less CO₂ per metric ton of zinc oxide produced along with an improved capability of consuming reusable and recyclable forms of zinc raw materials.

Since its inception in 2014, the facility has not had a lost time injury.

Zinc oxide is a mature product and evolving scientific learnings across the globe are incorporated in our day-to-day operations. Dickson has done just that with every new furnace and pelletizer added to the facility.

Grade	Powder	Pellet	Treated	Tire & Rubber	Chemical Intermediate	Oil Additives & Lubricants	Micronutrients & Animal Nutrition	Varistors (MOV) & Soft Ferrites	Paint & Coating	Plastic PP/PE	USP	Food Contact	Tape & Adhesive
103	✓							✓	✓				
104	✓				✓	✓		✓	✓	✓	✓		
101	✓									✓			
102	✓									✓		✓	✓
400	✓			✓								✓	✓
500	✓												
103P		✓											
104P		✓											
400P		✓		✓									
500P		✓											
103T			✓										
104T			✓										
101T			✓										
102T			✓										
400T			✓	✓									
500T			✓										
500WSA	✓						✓						
800WSA	✓						✓						
103USP	✓										✓		
112USP	✓										✓	✓	
101USP	✓										✓		
102USP	✓										✓		
103USPL	✓										✓		
112USPL	✓										✓		
101USPL	✓										✓		
102USPL	✓										✓		
112EP											✓		
124G		✓						✓					



Our Products

Zochem manufactures a full spectrum of high-purity French Process Zinc Oxide. With powder and pellet availability, a broad range of surface area options, and treated material capabilities, Zochem has a product for every application.

What The French Process is and Why it's Superior

Zochem offers application-specific zinc oxide powders and pellets that are 99.9% pure and above. Pellets are an excellent option where high flow rates are desired.

Based on the French Process, we start with pure metallic zinc. The metal is vaporized and oxidized in a combustion zone, utilizing our natural gas fired muffle design furnace. This typically yields consistently nodular shaped granules.

Products are available with surface areas ranging from 2.7 m²/g to 10.0 m²/g. With multiple surface area options, coated and uncoated granules and purity options, Zochem has a product for virtually any application. Custom formulations are also available. We provide a wide variety of packaging options with customized packaging as an additional choice.

Capabilities & Special Areas of Expertise:

- High Purity (French Process)
- High Surface Area
- Low Surface Area
- Pellet
- USP API/Pharma
- Treated

Industry Applications

We have a product for almost every application and custom formulations are also available. We provide a wide variety of packaging options, including customized packaging on request.

Tire & Rubber Product Applications:

- Truck and Passenger Car Tires
- Door Channel, Window Channel
- Carpet Backing
- Wire and Cable Rubber Jackets & Insulation
- Belts
- Shoe Soles, Heels, Boots
- Hoses

Benefits:

- Increases effect of organic accelerators in Rubber vulcanization
- Reduces heat buildup and wear in tires
- Adds strength to rubber compounds, improves their resistance to heat and abrasion
- Reduces shrinkage in manufacturing
- Activates cross-linking between adjacent polymer chains and effective reticulation for rubber vulcanization
- Activates cross-linking between adjacent polymer chains and effective reticulation for rubber vulcanization
- UV blocker helping reduce rubber degradation

Plastics

Recommended Applications:

- A wide variety of plastic products
- Polyolefins – acid scavenging in LLDPE, HDPE, and PP
- PVC stabilizers – heat stability
- Thin films – to provide UV light protection
- Catalysts – various uses in plastic compounds
- TPEs – curing and cross-linking



Chemical Intermediate

Common Applications:

Agricultural

- Zinc sulfate – encourages plant growth
- Zinc nitrate – corrects zinc deficiencies
- Zinc EDTA – chelating agent

Construction

- Zinc borate – smoke suppressant, flame retardant
- Zinc octoate – paint driers, PVC stabilizers
- Zinc phosphate – corrosion resistance
- Zinc neodecanoate – paint driers, PVC stabilizers

Rubber

- ZMBT, ZDMC, ZDEC, ZDBC – accelerators
- Zinc stearate – mold release agents
- Zinc diacrylate – golf ball centers

Miscellaneous

- Zinc Bromide – oil well drilling fluids
- Zinc citrate – dental care, human nutrition
- Zinc chloride – batteries, metallurgical fluxes
- Zinc neodecanoate – paint driers, PVC stabilizers
- Zinc resinate – printing inks

Glass

Recommended Applications:

- Windows and safety glass
- Automotive glass
- Shower and storm doors
- Decorative stained glass
- Drinking glasses and kitchenware
- Glass fibers

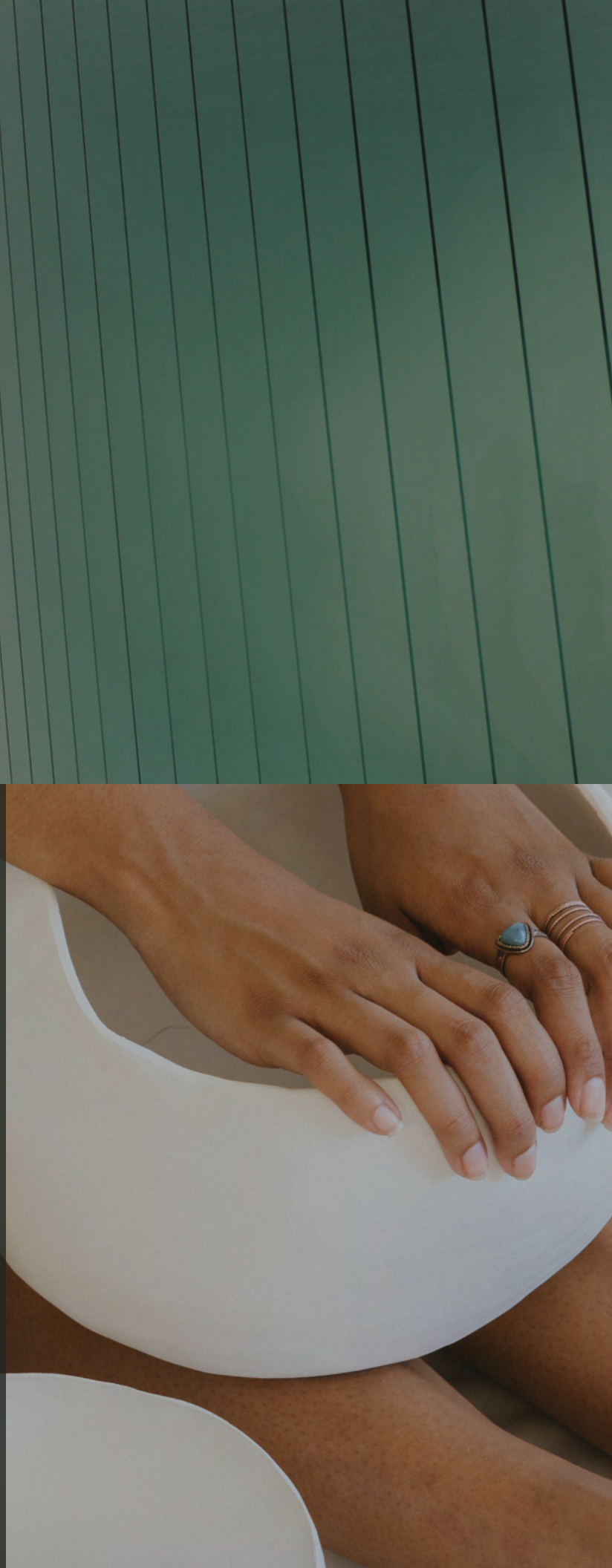
Ceramics

Ceramics are everywhere around us, from the coffee mug we start the day with to insulators that bring us electrical power. Zochem helps make it happen, every step of the way.

Additional benefits of zinc oxide in ceramics:

- Reduced shrinkage on cure
- Reduced thermal coefficient of expansion
- Ceramic tiles are the most well-known examples

Reach out to Zochem for Grade recommendations



Micronutrients & Animal Nutrition

Recommended Applications:

- Zinc oxide supplies zinc as a trace element and nutrient for crops.
- Using straight zinc oxide in fertilizers and sprays means crop acidity can decompose the ZnO gradually providing a nutrient time-release. Crops can grow in sub-standard soil with up to a 3X bushel per acre increase in yield.
- Zinc oxide is used in animal nutrition in prepared feeds.
- ZnO forms parts of enzyme systems such as carbonic anhydrase (proper bone and eggshell formation), carboxypeptidase (liver function), and lactic dehydrogenase (skeletal muscle function).



Varistors, Ferrites & Surge Arrestors

Common Applications:

Soft Ferrite Cores

- Ferromagnetic material used in electronics
- Composition is mainly iron oxide & 15-20 percent ZnO

MOV-Metal oxide varistor & Surge Arrestors

- MOVs and surge arrestors contain up to 90% ZnO
- Components are high-pressure compression molded and sintered to a dense mass
- Desired compaction density is improved with bi-modal ZnO

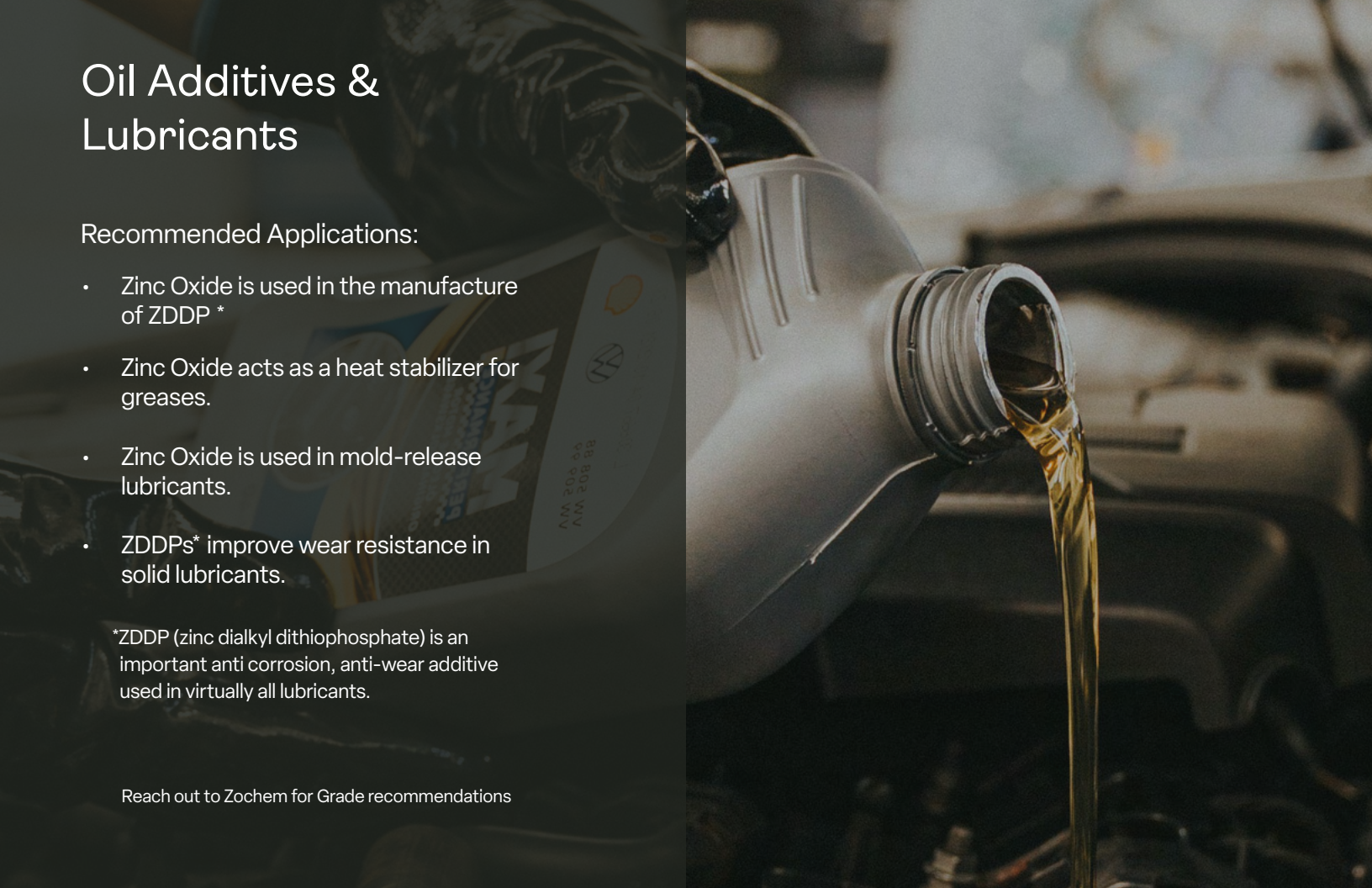
Tapes & Adhesives

A close-up photograph showing a person's hands applying a roll of clear adhesive tape to a brown cardboard box. The tape is being pulled from a roll and is being pressed onto the surface of the box. The background is slightly blurred, focusing attention on the hands and the tape.

Recommended Applications:

- Adds strength to rubber tapes and adhesives
- Improves resistance to heat and abrasion
- Helps guard against degradation from sunlight or other sources of UV
- Used as a catalyst or cross-linker in certain adhesive formulas
- Reinforces tapes
- Reduces shrinkage in the manufacturing process

Oil Additives & Lubricants

A photograph showing a person pouring a golden-colored oil from a white plastic jug into the engine of a car. The engine is open, and the oil is being poured into a reservoir. The background is dark and out of focus, emphasizing the action of pouring the oil.

Recommended Applications:

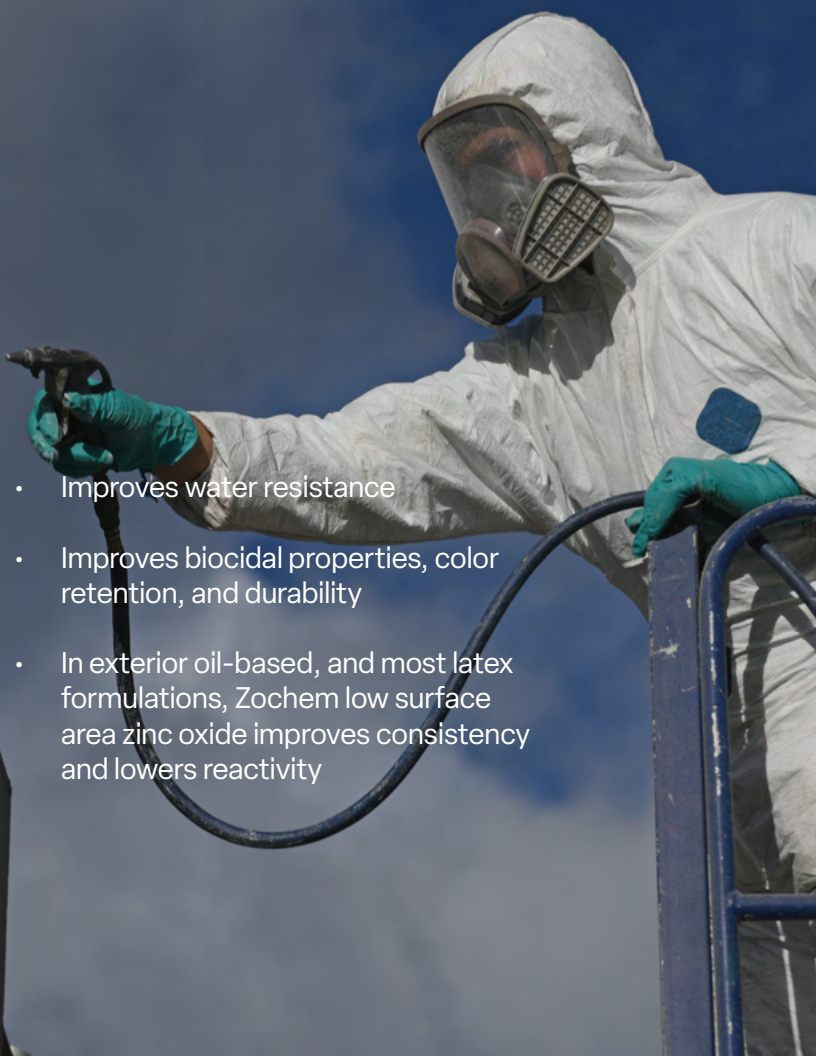
- Zinc Oxide is used in the manufacture of ZDDP *
- Zinc Oxide acts as a heat stabilizer for greases.
- Zinc Oxide is used in mold-release lubricants.
- ZDDPs* improve wear resistance in solid lubricants.

*ZDDP (zinc dialkyl dithiophosphate) is an important anti corrosion, anti-wear additive used in virtually all lubricants.

Paint & Coatings

Additional benefits of zinc oxide in paint & coatings:

- Protection from harmful UV radiation
- High surface area zinc oxide can be used as a can lacquer coating to prevent food discoloration from the effects of sulfides of iron or tin
- Good corrosion-inhibiting properties
- Toughens film
- Inhibits mold and mildew growth



- Improves water resistance
- Improves biocidal properties, color retention, and durability
- In exterior oil-based, and most latex formulations, Zochem low surface area zinc oxide improves consistency and lowers reactivity

Battery & Energy Storage

Recommended Applications:

- Nickel-zinc batteries are used in military and data center applications where immediate backup power is essential. As the need for data storage increases, so will the demand for this product.
- Nickel-zinc batteries also have the potential to replace Nickel-Cadmium batteries in aircraft.
- Zinc-Air batteries, designed for long-duration energy storage, can provide backup power for days with thousands of cycles. Applications range from residential to commercial.
- Wind and solar generated energy—batteries for energy storage banks.

Recommended Zochem types varies. Please check with Zochem. Advantages of batteries based on zinc-oxide chemistry: Unlike lithium, zinc, and zinc oxide are abundant, non-toxic, recyclable, non-flammable, and very cost effective, making them ideal for the development of rechargeable batteries. Various types of zinc batteries have already proven successful in applications and new types are in development.

- Zinc-Bromide and Zinc-Iron flow batteries are already serving in the mid-range (10 – 12 hour) battery backup field.
- Zinc-ion and Zinc-Manganese batteries, similar to non-rechargeable alkaline batteries, are in the development stage. They show great potential as battery backups for solar installations.
- ZnO is being explored for supercapacitors, which can deliver high power quickly with instant recharging.

Pharmaceuticals

USP grades must meet or exceed the industry's highest standards for product quality and testing. Zochem offers 9 unique grades, all certified by agencies of their intended applications.

Popular USP Applications

Most Common Applications:

- Sunscreens – UV protection in natural formulas requiring a non-nano option
- Diaper rash creams and wound care – promotes healing
- Nutritional supplements – vitamins and mineral premixes
- Cosmetics – UV protection for outdoor applications
- Lotions, creams and toothpaste
- Calamine and other lotions

Additional Common Applications:

- Dental creams
- Toothpaste
- Food and Medical packaging
- Medical equipment
- Medical tapes
- Pharmaceutical (Chemical intermediate)
- Vitamins
- Dog food

Zochem Zinc Oxide FDA and USP Four Product Type Options

USP API (Active Pharmaceutical Ingredient):

- Manufactured in an FDA-registered drug establishment manufacturing facility, which has been inspected by the FDA as compliant with ICH-Q7 GMP for API
- Meets ICH-Q7 GMP and 21 CFR211 cGMP for API for pharmaceutical drug product and USP (API) grade products
- Meets 21 CFR111 GMP for dietary supplements (DS)
- Meets 21 CFR111 GMP for dietary supplements (DS)
- Available for customer API specifications
- For use when zinc oxide is an active ingredient in a prescription-only drug, such as a high-potency prenatal vitamin

L Series (L for Ultra-low Lead):

- Available in either USP or USP (API) registrations and GMP
- Offers the lowest lead (Pb) level attainable, where clients request impurity levels better than USP monograph specification limits
- Meets FCC (Food Chemical Codex) model standards
- 10 PPM max lead

FDA Approved:

For all Zochem zinc oxide grades, "Product is USFDA approved as GRAS (Generally Recognized as Safe) at 21 CFR182.8991, meets GMP 21 CFR110, and authorized by the FDA for use wherever GRAS is approved," including:

- Rubber articles at 21 CFR177.2600(c)(1)
- Animal drugs, feeds, nutrient products and/or dietary supplements at 21 CFR582
- Plastics at 21 CFR177.1010(a) and 1010(b) (1)
- Food can liner and coatings at 21 CFR175.300(b)(2)

USP:

- Manufactured in an FDA-registered food manufacturing facility
- Produced by the French (Indirect) Process
- Meets USP Compendium Monograph specification for zinc oxide
- Meets GMP (Good Manufacturing Practices) 21 CFR110 for food and excipients
- Meets IPEC/ANSI/NSF 363 GMP standard for excipients
- Manufactured in an FDA-registered drug establishment manufacturing facility, which has been inspected by the FDA and/or Health Canada, who have certified both Zochem facilities as compliant with ICH-Q7 GMP for API

Other Country USFDA GRAS equivalent regulations and approvals include:

- Mercosur (South America) Positive List RD 39/19 Table 1
- Canada (Zochem has received a no-objection letter from Canada EU member states at EU 1-/2011 and EC 1935/2004
- Japan JHOSPA and MHLW meets assay requirements and impurity limits
- China GB 9685-2016
- Grade 102 (Plastics), 500 (coatings), 400 (rubber) recommended

Environmental Social & Corporate Governance (ESG)

Zochem fosters a ZERO-Injury work environment overseen by our Dream Team. Our Dream Team members promote a safe and welcoming work environment, keeping the STARTING LINE-UP on the floor which is why CERTAINTY STARTS HERE!

The company is proud of its record of 12 years and 9 years without a lost-time injury at our Brampton, Canada, and Dickson, U.S.A. locations respectively. Our Dickson location was a Greenfield site in 2014.

Our safe and sustainable performance on-site complements the Zochem product which is often used in applications essential for human health, infrastructure, and the safe operation of equipment and vehicles.

Zochem has been recognized by multiple industry leaders including the Association for Rubber Products Manufacturers (ARPM) who awarded us the Gold Safety Award. Rubber News has recognized Zochem for the 4th consecutive year with the Best Place to Work Award.

A Genchi Genbutsu (Go-and-See) approach is used at Zochem which includes a thorough review of risk assessments to ensure complacency does not set in. Innovative and collaborative discussions are what drive our critical thinking and adherence to our industry-leading safety programs.

“We all understand the importance of what we do, but we enjoy doing it with our team mates day in, and day out. Working alongside people who are always watching out for your best interests is invaluable, and a trait the Zochem Dream Team never takes for granted.” – Dickson Plant Manager Jimmy Kight



Zochem's Mission, Vision and Values

What's important to you is important to us.

Mission:

Zochem's mission is to prove to all our stakeholders that we have no equal in the safety, quality, and sustainability of our zinc oxide and related services.

Vision:

Zochem's vision is to be the "go-to" resource for all things zinc oxide.

Values:

- Safety
- Integrity
- Teamwork
- Customer Satisfaction
- Quality
- Growth for the team
- Business Growth

Grade	Lead (Pb%)	Surface Area (m²/g)	Powder Grade	Pellet Grade	Treated Grade	ZnO (&) Typical
103	0.003 max	2 to 4	103	103P	103T	99.9
104	0.003 max	4 to 6	104	104P	104T	99.9
101	0.003 max	6 to 8.5	101	–	101T	99.9
102	0.003 max	8 to 10	102	–	102T	99.9
400	0.1 max	4 to 6	400	400P	400T	99.9
500	0.05 max	4 to 6	500	500P	500T	99.9
500WSA	0.05 max	2.5 to 11	500WSA	–	–	99.9
800WSA	0.005 max	2.5 to 11	800WSA	–	–	99.9
103USP	0.002 max	2 to 4	103USP	–	–	99.9
112USP	0.002 max	3 to 6.5	112USP	–	–	99.9
101USP	0.002 max	6 to 8.5	101USP	–	–	99.9
102USP	0.002 max	8 to 10	102USP	–	–	99.9
103USPL	0.001 max	2 to 4	103USPL	–	–	99.9
112USPL	0.001 max	3 to 6.5	112USPL	–	–	99.9
101USPL	0.001 max	6 to 8.5	101USPL	–	–	99.9
102USPL	0.001 max	8 to 10	102USPL	–	–	99.9
112EP	0.005 max	3 to 6.5	112EP	–	–	99.9
124G	0.005 max	–	–	124G	–	99.9

Zochem's Industry Certifications

Allergen Free Certification
CA Fertilizing Registration
CA Livestock Drugs Registration
Certificate of Free Sale
Conflict Minerals (CMR) Certification
Composition, Elemental Impurities, and INCI Statement
CONEG and Toxins in Packaging Certification
Drug Master File (DMF) Statement
EPA FIFRA Registration Statement
EU REACH and SVHC Compliance Certification
FDA and other authority approvals for food contact:
FDA approved, China, Mercosur, Health Canada LONO,
MHLW, JHOSPA PL
FDA API Drug Manufacturer Registration
FDA Certificate of a Pharmaceutical Product (CPP) for
Active Pharmaceutical Ingredient (Brazil)
FDA Certificate of a Pharmaceutical Product (CPP) for
Active Pharmaceutical Ingredient (Germany)
FDA Certificate of a Pharmaceutical Product (CPP) for
Active Pharmaceutical Ingredient (Italy)
FDA Certificate of a Pharmaceutical Product (CPP) for
Active Pharmaceutical Ingredient (South Korea)
FDA FFR Bioterrorism Act Food Facility Registration
Confirmation
FDA Food Packaging Statement
Foreign Material Detection-Screening Certification
FSVP, FSMA, HACCP, Risk Evaluation of ZnO and Plan
GMO, BSE, and TSE Compliance Certification
Halal Certification
Health Canada Drug Establishment License
Heavy Metal Statement
ISO 9001:2015 Certificate–Zochem North
ISO 9001:2015 Certificate–Zochem South
ISO 14001:2015 Certificate–Zochem North
Kosher Certification–Zochem North
Kosher Certification–Zochem South
K-REACH Statement
Natural, Inorganic, ISO Natural Origin Index, and Eco
Statement
Non Nano Statement
NSF–Prohibited Substances Compliant Certificate
PPAP Part Submission Warrant
Prop 65 Statement
REACH Compliance Certification
RoHS and WEEE Compliance Certification
SDS's in EN English, FR French, ES Spanish, ZH
Chinese, KO Korean, IT Italian, NL Dutch, PT
Portuguese, SV Swedish, PL Polish, DE Germany
Shelf Life and Stability Statement
SVHC Compliance Certification
TSCA et al Chemical Inventories Compliance Statement
TRA Public Summary Report
USMCA COO–Zochem North
USMCA COO–Zochem South
USP Labeler Code Registration

Zochem

Corporate
Brochure

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