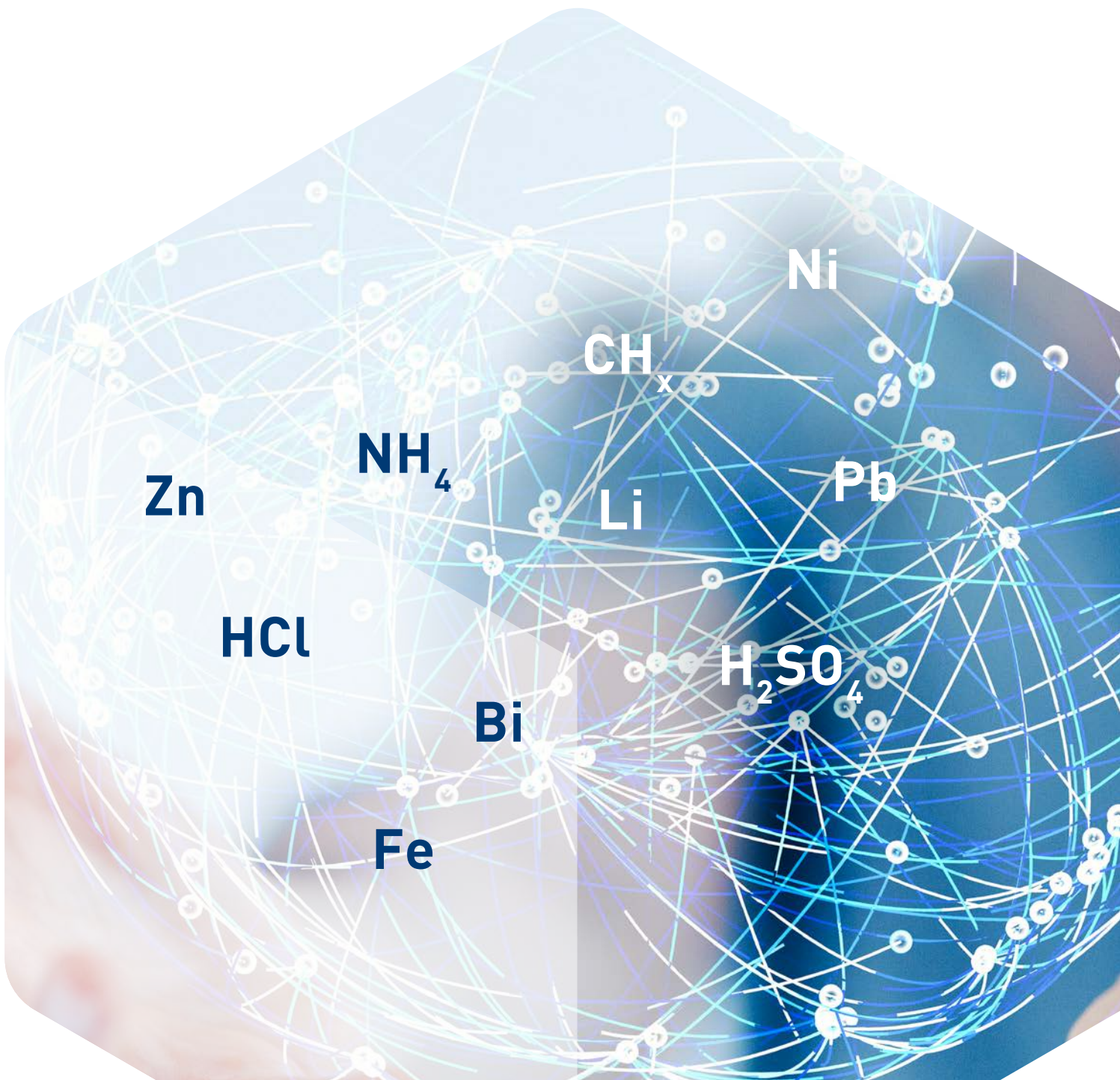




TIBCHEMICALS

Hot-Dip Galvanising

Your integrated chemical partner for every process step



TIB Chemicals

We, TIB Chemicals AG, are a global medium-sized chemical company. We offer our customers a diversified product range as well as custom solutions in the fields of basic chemicals, inorganic specialty chemicals and coating systems.

Our diversification offers an extensive product range and stable financial base. Our tight organisation and lean structure translates to short decision-making processes within the company. Consequently, we are flexible and adaptive to the requirements and wishes of our customers. The economic success of TIB Chemicals is definitely based on three key factors:



EXPERTISE

We draw on a broad product range and over 140 years of tradition.



EMPLOYEES

With our 480 motivated and committed employees we are able to steer the company towards success by means of creativity, discipline and an investigative spirit.



QUALITY

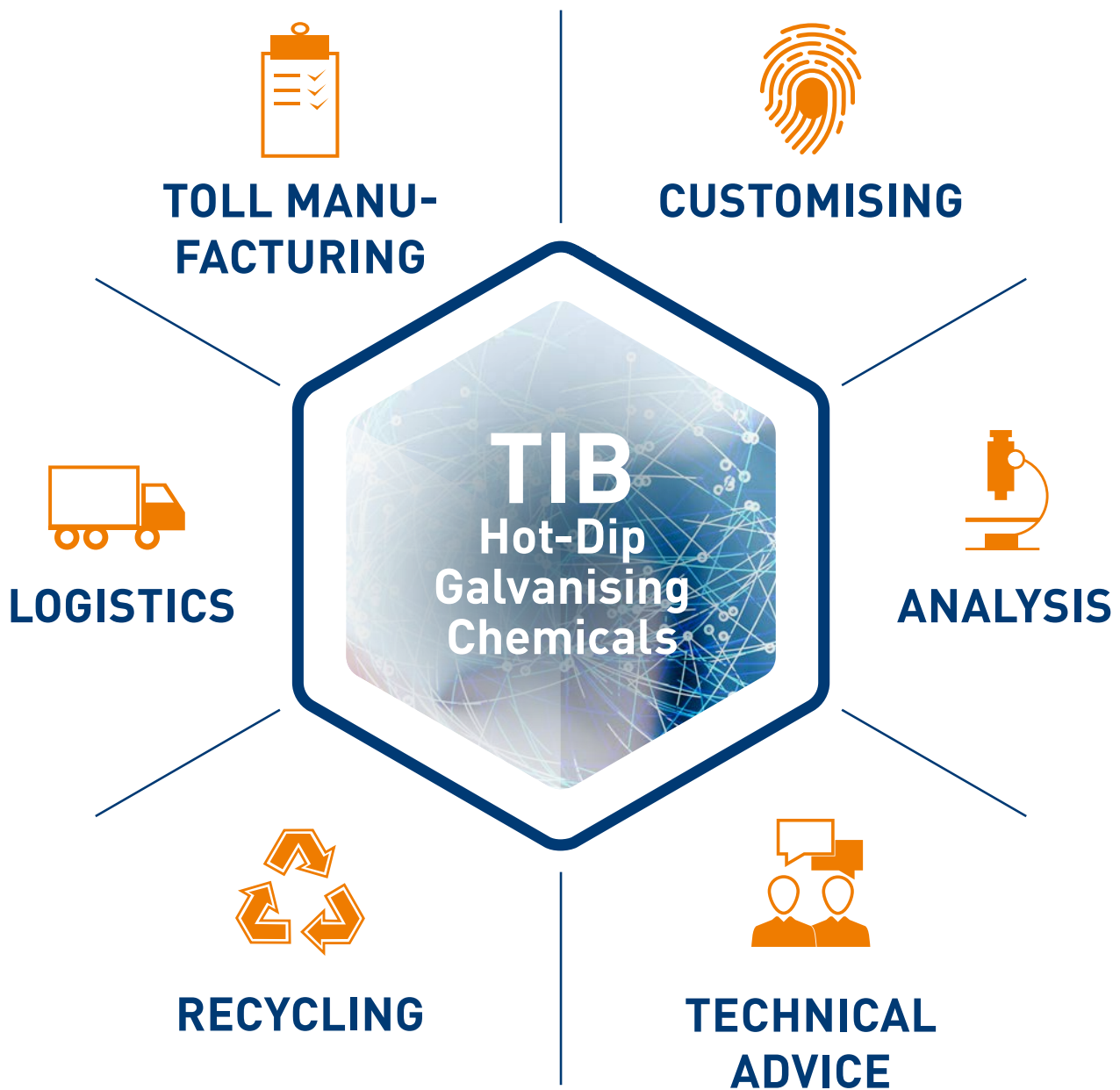
With innovative and customized products we are flexible and adapt to dynamic market conditions.

Through our subsidiaries TIBChemCorp Mexicana in San Luis Potosí, Mexico and TIB Chemicals Corp. in Houston, USA we have a very good global structure and are well positioned to deal with the demands of our customers. This allowed us to grow continuously over previous years, together with our customers.



YOU CONCENTRATE
ON YOUR CUSTOMERS;
LEAVE THE REST TO US!

TIB Chemicals your integrated chemical partner



Hot-dip galvanising – The right product for you

TIB Chemicals accompanies its customers along the entire hot-dip galvanising process.

Our range of services comprises technical consultancy and the supply and disposal of chemicals and wastes. We have the right product for every step in the hot-dip galvanising process.

TIB Chemicals' range of products includes acids, degreasing agents, cleaning additives, inhibitors, pickling

additives, fluxes, passivation products against white rust as well as a number of functional additives to improve the efficiency and economics of your process.

Our goal is to provide tailored and unique solutions for all your hot-dip galvanising needs. Drawing on an enormous body of expertise in pre-treatment products, fluxes and production processes, which we have accumulated over many years through close contact with our customers, we are able to be your partner of choice.

Why not source all your needs from a single supplier?

We have the optimum solution for every single one of your diverse and demanding challenges whether it is; the ideal pre-treatment products, an optimal pickling process or an efficient flux. We can also assist you with

your recycling and waste management requirements. TIB Chemicals is there when you need competent and professional advice on products and services to optimise your hot-dip galvanising process.

You concentrate on your customers; leave the chemistry to us!

Degreasing

The basis of a good galvanising process is the complete and residue free cleaning of the steel, this optimises all the following steps in the pre-treatment process.



TIB Clean

Highly effective and efficient degreasing products, whether it is an alkaline or perhaps an acidic cleaning product you are looking for then we have the perfect product to fit your needs. All our products are EU detergency reg. 648/2004 conform. Additionally to our standard products we are constantly developing new innovative solutions to meet your challenging demands.

Two of our most popular products are **TIB Clean A 101** and **TIB Clean H 400**.

TIB Clean A 101

TIB Clean A 101 is a highly concentrated 2 component alkaline emulsifying immersion cleaner, which together with sodium hydroxide gives the galvaniser total control of the cleaning solution to efficiently remove a wide range of oils and contaminants that are commonly found on steel. TIB Clean A 101 has an exceptional endurance coupled with a low consumption and a competitive price.

TIB Clean H 400

TIB Clean H 400 is a concentrated phosphoric acid based degreaser. It is operated at a lower concentration and temperatures than other similar products and is self cleaning. The special surfactant mix in TIB Clean H 400 creates a highly effective and powerful degreaser. It requires no rinsing before pickling and can reduce the pickling time in subsequent baths.

	Alkaline	Acid	Application
TIB Clean A 101	<input checked="" type="radio"/>	<input type="radio"/>	Highly concentrated 2pack alkaline emulsifying immersion cleaner
TIB Clean H 400	<input type="radio"/>	<input checked="" type="radio"/>	Phosphoric acid based cleaner, effective and efficient
TIB Clean H 500	<input type="radio"/>	<input type="radio"/>	Economical mixed acid cleaner
TIB Clean H 501	<input type="radio"/>	<input checked="" type="radio"/>	Regenerator for TIB Clean H 500
TIB Clean H AD01	<input type="radio"/>	<input checked="" type="radio"/>	Premium emulsifying cleaning additive for pickle baths, good stability
TIB Clean H AD02	<input type="radio"/>	<input checked="" type="radio"/>	Standard cleaning additive for pickle baths
TIB Clean A 101-SC	<input checked="" type="radio"/>	<input type="radio"/>	Cleaning booster for alkaline degreasers, effective at low concentrations



Pickling – The perfect surface preparation

Once the surface is fat, oil and dirt free it is necessary to further prepare the surface through pickling to remove any oxides and rust. With our almost 150 years experience in the production and sales of acids we can supply you with

acid of high quality to perfectly pickle your work. TIB Chemicals is one of the biggest distributors of hydrochloric acid in Europe and manufactures sulphuric acid at our Mannheim site.

TIB Inhibitor

Our range of high effective and concentrated inhibitors are proven to increase the life of pickle baths through reducing acid attack on the steel, without reducing the dissolution of oxides and weld scale and can help reduce hydrogen embrittlement.

TIB Inhibitor Standard has been proven to have a synergistic effect when used in combination with TIB Clean AD01 and TIB Additive H Fumekill.

	Operation temperature	Application
TIB Inhibitor Standard	5-40 °C	Highly effective Inhibitor for HCl and dilute H ₂ SO ₄ can be used both in pickling and stripping solutions.
TIB Inhibitor Premium	5-55 °C	None toxic and completely foam free inhibitor for HCl. Used at extremely low concentrations.

Acids

Our acids are delivered primarily in tank trucks but other options are available.

	Concentration
Hydrochloric Acid	30-33 %
Sulphuric Acid	20-99 %

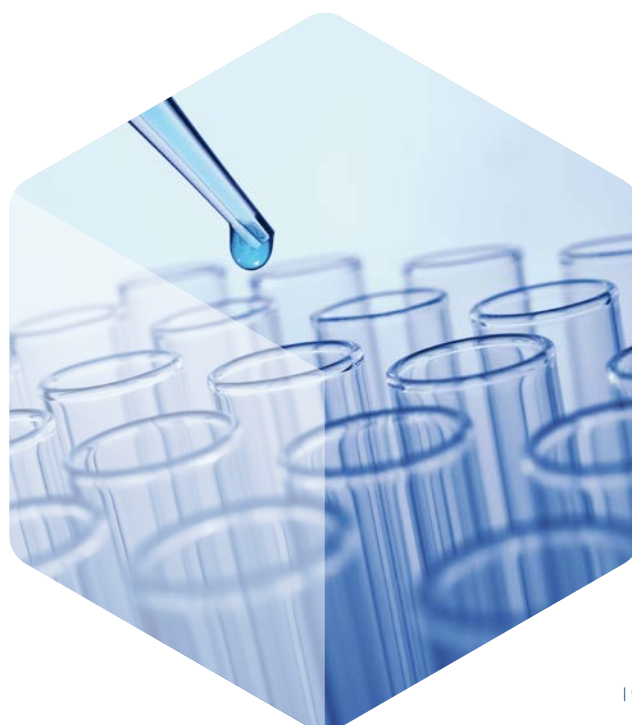
Additives – Perfect process control

TIB Additive

With our long experience in the hot dip galvanising market we have identified the need for functional additives to increase the efficiency and productivity of the galvanising process. The product range includes surface tension modifying products; TIB Additive F Wet and TIB Additive F Dry that help in producing a uniform flux coating that dries unusually quickly or TIB Additive F Neutraliser that

can correct the pH in any flux bath. Our customers love the easy, quick and effective iron removal from contaminated flux baths with our proprietary TIB Additive F Ferrexal a powdered product that without any additions of toxic chemicals and no complicated control can completely remove the iron from your flux bath.

	Flux	Pickling	Application
TIB Additive F Dry	<input checked="" type="radio"/>	<input type="radio"/>	Helps to remove excess water from the flux coating, reducing drying times
TIB Additive F Wet	<input checked="" type="radio"/>	<input type="radio"/>	Increases wetting and uniformity of the flux coating
TIB Additive F Ni	<input checked="" type="radio"/>	<input type="radio"/>	Nickel concentrate to help reduce the zinc coating thickness
TIB Additive F Ferrexal	<input checked="" type="radio"/>	<input type="radio"/>	Effectively removes iron from flux solutions
TIB Additive F Neutraliser	<input checked="" type="radio"/>	<input type="radio"/>	Rapid correction of the flux pH
TIB Additive H Foamkill	<input type="radio"/>	<input checked="" type="radio"/>	Highly concentrated and rapid foam reduction
TIB Additive H Fumekill	<input type="radio"/>	<input checked="" type="radio"/>	Reduces the out gassing of HCl pickle baths



Fluxing – The perfect product

With our over 50 years of experience in metal salts and their production we have been a constant partner for you and your flux needs.

TIB Chemicals has an extensive range of fluxes to suite your application perfectly. Whether it is a standard salt or a special flux, our products are specifically design for your exacting needs.

TIB Flux

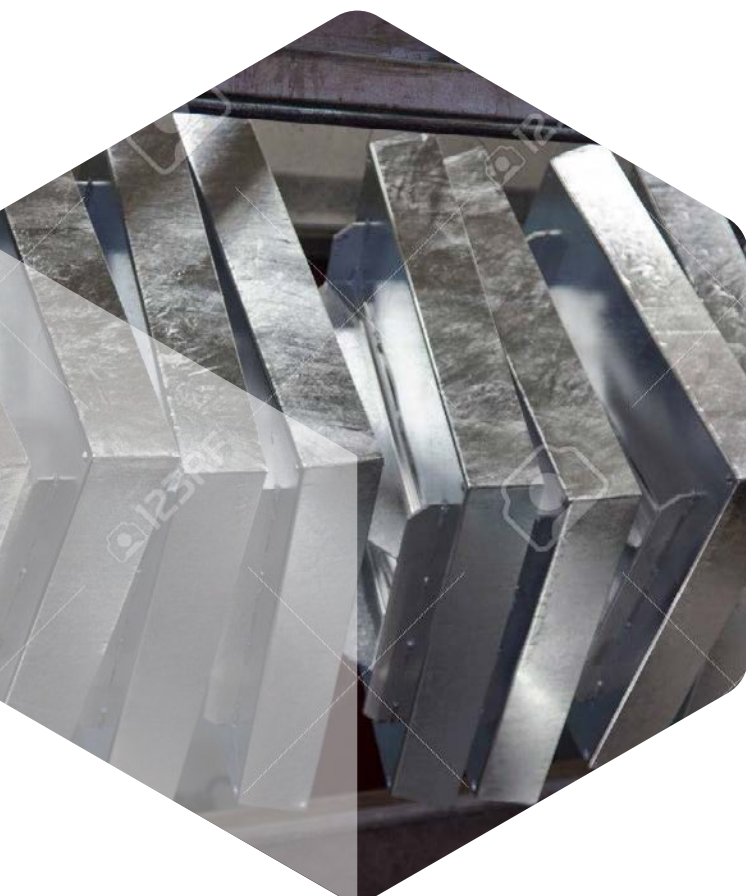
Our premium TIB Flux 60 system products help you maintain complete control of the flux chemistry. The 3 pillars of our TIB Flux 60 system are the control of the flux density with TIB Flux 60 either as a liquid or powder, the control of the flux pH with TIB Flux 60 pH or pH+ that convert acid carried over into new flux with the correct ration of zinc and ammonium chloride . The fluxes in our patented TIB Flux 60 Ferrokill family remove iron contamination in a Flux regeneration plant reducing the dross and ash production and saving you money.

Our ready to use TIB Flux 60 S500 flux solution saves you the work of dissolving the flux salt; it is perfectly concentrated at 500 g/l to be added directly to the flux bath.

Our TIB Flux LF products are low fume fluxes that reduce the dependence on expensive air extraction and filtration.

The TIB Flux AP range of fluxes was specifically designed to avoid the typical problems associated with zinc melts containing higher aluminium levels.

For unique applications outside of those normally encountered we developed our TIB Flux S fluxes. TIB Flux are available as powder in drums and bags or as a pre-dissolve liquid in IBC ´s or tank trucks that are easier to use and can help protect employees from dust.



	Galvanising of Heavy pieces	Small parts	Wires	Steel strip	Form Powder	Liquid	Application
TIB Flux 60	●	●	●	●	●	●	Premium flux
TIB Flux 60 pH	●	●	●	●	●	○	Premium flux with acid buffer
TIB Flux 60 pH+	●	●	●	●	●	○	Premium flux for acid correction
TIB Flux 60 Ferrokill	●	●	●	●	●	○	Premium flux for iron precipitation
TIB Flux 60 Ferrokill+	●	●	●	●	●	○	Premium flux for iron precipitation
TIB Flux D	●	●	●	○	●	●	Standard double salt flux
TIB Flux T	●	●	●	○	●	●	Zinc ammonium chloride triple salt
TIB Flux LF10	●	●	○	○	●	●	Low fume
TIB Flux LF20	●	●	○	○	●	●	Low fume
TIB Flux AP 30	●	●	●	●	●	○	Special flux for high aluminium HDG
TIB Flux AP 40	●	●	●	●	●	○	Special flux for high aluminium HDG
TIB Flux AP 50	○	●	●	●	○	●	Special flux for high aluminium HDG
TIB Flux AP 50+	○	○	○	○	○	●	Regenerator solution for TIB Flux AP50
TIB Flux S 69	●	○	●	●	●	○	Special low fume flux
TIB Flux S 72	○	○	○	●	○	●	Special low fume flux
TIB Flux S RA	●	○	○	●	●	○	Special low fume flux
TIB Flux S Crystals	○	●	●	○	●	○	Special high zinc flux
TIB Zinc chloride	●	●	●	●	●	●	Zinc chloride
Ammonium chloride	●	●	●	●	●	○	Ammonium chloride



Galvanising – It's not just zinc

Other metals can be alloyed with the zinc giving certain advantages in how the zinc reacts with the steel or producing coatings with desirable properties.

TIB Alloy

TIB Chemicals is able to supply you with nickel powder for alloying with your zinc. We are also able to assist if you require other alloys including aluminium, tin and bismuth or nickel.

Application

TIB Alloy Nickel P

Reduces the reactivity of problem steels

Post-treatment and passivation

The preservation of a perfect a glossy surface is a primary quality attribute for your clients.

TIB Finish

TIB Chemicals has a range of products with the name TIB Finish developed with our customers and proven in real world application that provide protection from dulling and white rust.

Application

TIB Finish CH06

Extremely effective, long lasting chrome passivation

TIB Finish Polycoat

Zirconium / polymer passivation

TIB Finish CH03

Chrome VI free passivation, good wet storage protection

Technical consultancy

Our research and development activities and intensive collaboration with customers give rise to a steady stream of new, effective combinations and modifications for specific applications.

Our expertise and many years of experience qualify us to support you as our customer in developing new applications of your own. TIB Chemicals' goal is to help you to be the best galvaniser possible. With our years extensive process knowledge we can not only advice you on which of our products is ideal for you needs, but also help you with more abstract problems that you may encounter. If you want we can train you and your employees in inhouse workshops and seminars. If you want to carryout basic analytic procedures then we can show you how.

Workshops and seminars	Training for your personal
Technical consultancy	Professional advice
Tailored product design	Your perfect product

Analytical services

If you need a professional and competent analysis of any of your baths from a labour that knows your process and products, our analytical service is the right choice for you.

We can provide you both with exact results and advice on how to implement the changes and additions necessary. TIB Chemicals offers analytical laboratory techniques, laboratory instrumentation and testing methods that are tailored to your process and our products; we provide the critical analysis information clients need for bath maintenance, trouble-shooting, quality control and many other requirements and applications.

Degreasers	Acidic, alkaline or neutral, concentration, contamination and affectivity
Rinses	Contamination levels
Pickling solution	Concentration, contamination and affectivity
Stripping solutions	Concentration, contamination
Flux	Concentration, contamination and affectivity
Passivation	Concentration, contamination and affectivity

Recycling – A perfect economic cycle

Economic cycle

An essential component of an environmentally sustainable production is the careful and efficient use of natural resources. By recycling waste into secondary raw materials, TIB Chemicals closes material cycles and promotes an ecologically sensible production of high-quality products.

As an authorised recycler, TIB Chemicals recovers metal containing wastes and residues that accumulate during our customer's processes. Resulting from our many years of experience reprocessing zinc, copper and tin, we are considered a reliable partner with expertise and knowledge of how to assist you.

Our competent recycling team can help you with your waste problems either through recycling, disposal or advice in how to reduce the volumes or increase the quality of any wastes from your process.

TIB Chemicals has authorisation to use, in its own production facilities, secondary raw materials from both Germany and other regions and countries. Through an extensive range of notifications and authorisations, TIB Chemicals process large volumes of secondary raw material in an environmentally friendly manner.

This integrated solution allows TIB Chemicals to deliver high-quality products to its customers and where possible to utilise their wastes: a complete solution from a single source.

We can even receive substances not being recycled in our company and forward them to approved partner plants.

We would be pleased to receive any enquiries regarding your waste materials, so that we can evaluate them on an individual basis.

ZINC

Description	Waste number
Zinc stripping solution	AVV 11 01 05*
Rinsing liquids	AVV 11 01 11*
Used fluxes	AVV 11 05 04*
Filter dusts	AVV 11 05 03*, AVV 10 05 03*, AVV 10 05 05*
Ashes	AVV 11 05 02
Filter cakes	AVV 11 01 09*
Aqueous liquid waste	AVV 16 10 01*
Flux sludge	AVV 11 01 09*
Zinc sludge	AVV 11 01 09*

IRON

Description	Waste number
Iron pickling solution	AVV 11 01 05*
Rinsing liquids	AVV 11 01 11*
Iron sludge	AVV 11 01 09*

OTHERS

Description	Waste number
Degreasing	AVV 11 01 13*
Degreasing sludge	AVV 11 01 09*



PROTECTING THE
ENVIRONMENT,
IS OUR RESPONSIBILITY

Product overview – Let us know which product you require

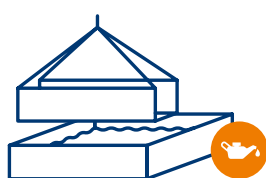
DEGREASING

TIB Clean A 101	Alkaline degreaser
TIB Clean H 400	Phosphoric acid degreaser
TIB Clean H 500	Mixed acid degreaser
TIB Clean H 501	Mixed acid degreaser
TIB Clean H AD01	Pickling degreaser
TIB Clean H AD02	Pickling degreaser

PICKLING

Hydrochloric Acid	Technical quality
Sulphuric Acid	Technical quality
TIB Inhibitor Standard	Inhibitor for HCl and H ₂ SO ₄
TIB Inhibitor Premium	Non foaming inhibitor

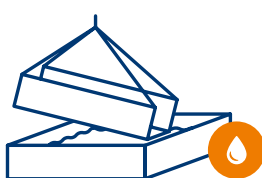
GALVANISING PROCESS



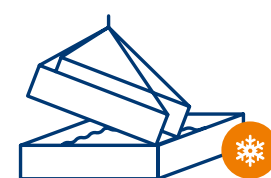
Degreasing



Pickling



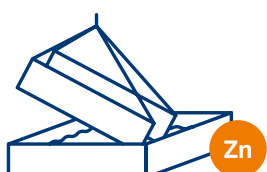
Rinsing



Fluxing



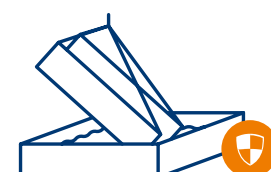
Drying



Galvanising



Quenching



Passivating

FLUXING

TIB Flux 60	Premium flux
TIB Flux 60 pH	Flux for pH control
TIB Flux 60 pH+	pH correcting flux
TIB Flux 60 Ferrokill	Iron reducing flux
TIB Flux 60 Ferrokill+	Extra strong iron reducing flux
TIB Flux D	Double salt flux
TIB Flux T	Tripel salt flux
TIB Flux LF10	Low fume flux
TIB Flux LF20	Low fume flux
TIB Flux AP 30	High aluminium HDG flux
TIB Flux AP 40	High aluminium HDG flux
TIB Flux AP 50	Bismuth flux
TIB Flux AP 50+	Regenerator for AP 50
TIB Flux S 69	Low fume flux
TIB Flux S 72	Strip galvanising flux
TIB Flux S 73	Sheet galvanising flux
TIB Flux S RA	Special low fume flux
TIB Flux S Crystals	Special high zinc flux
TIB Zinc Chloride	Technical quality
Ammonium Chloride	Technical quality

ADDITIVES

TIB Additive F Dry	Shorter drying times
TIB Additive F Wet	Wetting agent
TIB Additive F Ni	Nickel concentrate
TIB Additive F Ferrexal	Iron removal
TIB Additive F Neutraliser	pH correction
TIB Additive H Foamkill	Foam reduction
TIB Additive H Fumekill	Reduces acid out gassing

GALVANISING

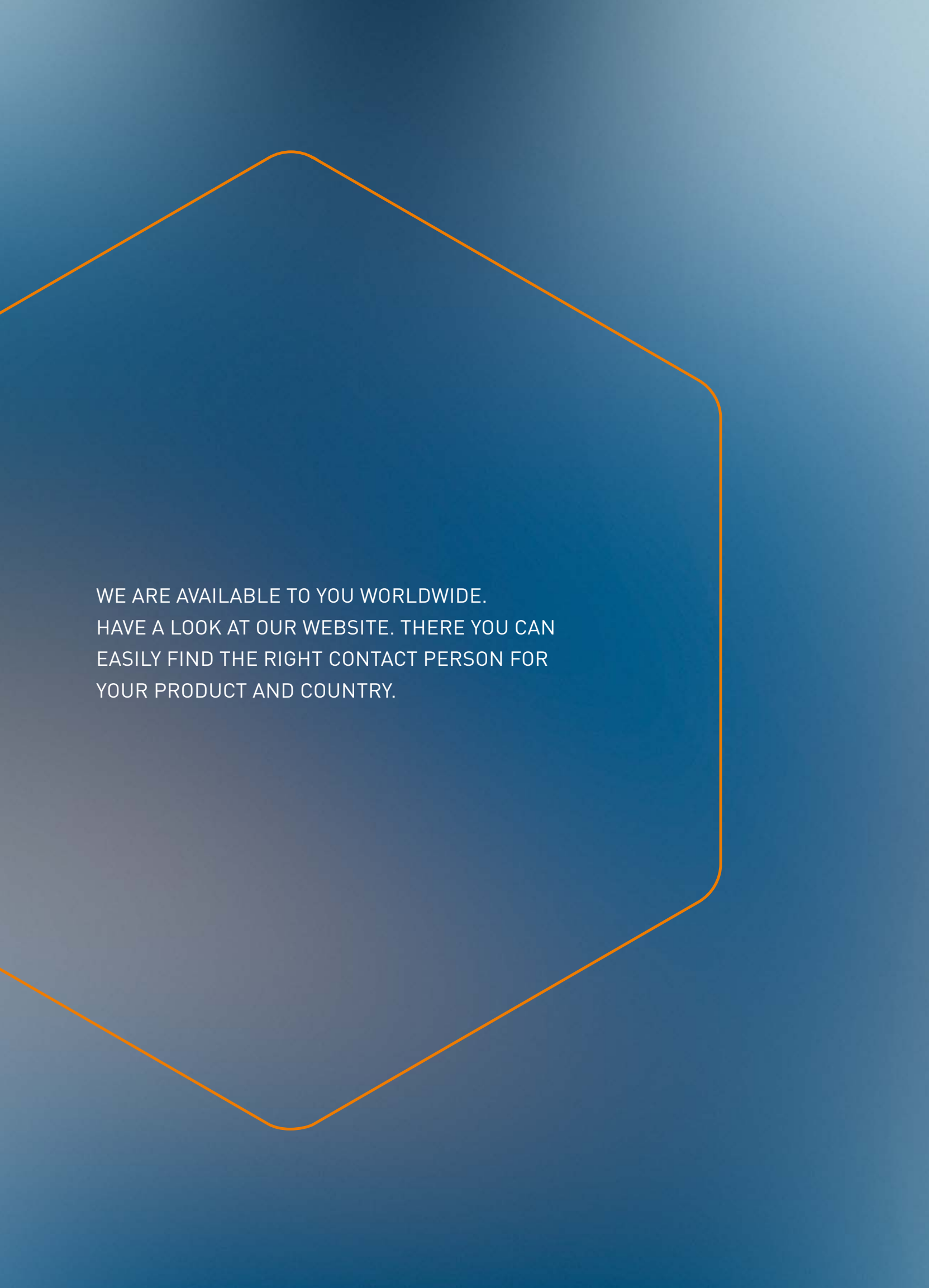
TIB Alloy Nickel P	Nickel powder
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POST-TREATMENT AND PASSIVATION

TIB Finish CH06	Chrome VI passivation
TIB Finish Polycoat	Zr passivation
TIB Finish CH03	Chrom III pasivation

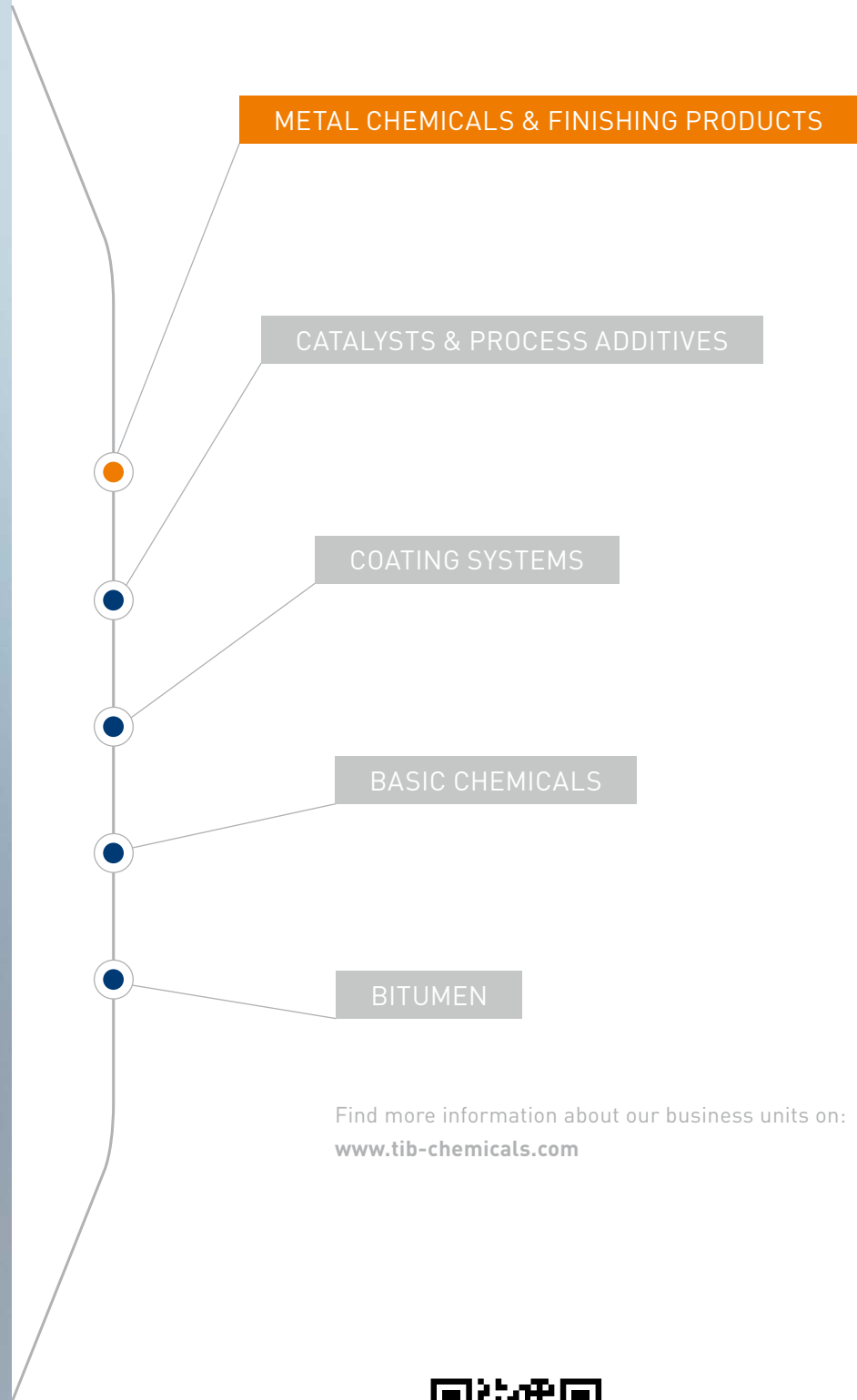
RECYCLING

Zinc stripping solution	AVV 11 01 05*
Rinsing liquids	AVV 11 01 11*
Used fluxes	AVV 11 05 04*
Filter dusts	AVV 10 05 03* / AVV 11 05 03* / AVV 10 05
Ashes	AVV 11 05 02
Filter cakes	AVV 11 01 09*
Aqueous liquid waste	AVV 16 10 01*
Zinc sludge	AVV 11 01 09*
Flux sludge	AVV 11 01 09*



WE ARE AVAILABLE TO YOU WORLDWIDE.
HAVE A LOOK AT OUR WEBSITE. THERE YOU CAN
EASILY FIND THE RIGHT CONTACT PERSON FOR
YOUR PRODUCT AND COUNTRY.

TIB Chemicals Business Units



Find more information about our business units on:
www.tib-chemicals.com

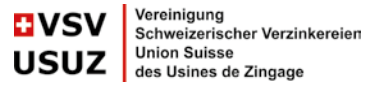




TIBCHEMICALS



[InitiativeZink|Zn³⁰]



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