

January | 2015

WIM 321

Safety Data Sheet

WIMinc.

SECTION I: Product and Company Information

WIM 321

Manufacturer	WIM Inc. Box 360667 Cleveland OH 44136-0667
Emergency Telephone	440 846 8874
Chemical Name	Proprietary mixture
Chemical Family	Proprietary blend of surfactants
Chemical Formula	Mixture
Product Use	Additive for inorganic acid; Class inhibiting

SECTION II: Hazardous Ingredients

GHS Ratings and Toxicity Categories



Signal Word: WARNING

GHS Hazards	GHS Precautions
H303 May be harmful if swallowed	P301 If swallowed
H313 May be harmful if in contact	P301+330+331 IF SWALLOWED: Rinse mouth. DO NOT induce vomiting
H319 Causes eye irritation	<p>P303+361+353 IF ON SKIN: (or hair) Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.</p> <p>P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do then continue rinsing cautiously.</p> <p>P337+313 If eye irritation persists. Get medical advice/attention.</p> <p>P501 Dispose of contents to an approved waste disposal facility in.</p>

SECTION III: Hazards Identification

Proprietary Mixture Ingredients	CAS	% /wt
Polyoxethylene(5) soya amine	61791-24-0	< 15%
Proprietary		< 5%
Proprietary		< 5%
Water	7789-20-0	balance

Proprietary mixture of non-hazardous inorganic compounds and ethoxylated amines, an alkaline mixture being an irritant to eyes, skin and ingestion. There are no materials in WIM 2X that are on the December 2013 list subject to TSCA 12(b) Export This product contains no listed carcinogens according to IRC, ACGHI, NTP and/or OSHA in concentrations of 0.1% or greater that are carcinogens or suspect carcinogens.

SECTION IV: First Aid Measures

First Aid Measures	WIM 321
Primary Routes of Entry to Body	Inhalation – No Skin – Yes Ingestion – Yes
Signs and Symptoms of Exposure	High concentrations are irritating to eyes, nose, and respiratory tract
May cause	Headache, dizziness, tiredness, nausea and vomiting. May cause skin burns.
Eye Contact	Liquids and mists from pickle bath may irritate eyes
Skin Contact	Can irritate skin
Ingestion:	Harmful if swallowed. When mixed with acid: Moderately toxic. Corrosive to mouth, esophagus and stomach.
Medical Conditions	Aggravated by Overexposure: May cause difficulty in breathing.
Chemical Listed as carcinogen or potential carcinogen:	National Toxic Program IARC: NO
Exposure limits	OSHA PEL ACGIH ACGIH TLV

EMERGENCY and FIRST AID PROCEDURES

1. **EYES:** Flush eyes with copious amounts of water for 15 minutes. Lift upper and lower eyelids occasionally. Contact physician immediately.
2. **SKIN:** Wash with soap and water. Remove contaminated clothing. Get medical attention if irritation develops.
3. **INGESTION:** If conscious DO NOT induce vomiting unless directed to do so by medical personnel. If large quantities are swallowed, call a physician immediately. Repeated or prolonged exposure is not known to aggravate medical condition.

SECTION V: Fire Fighting Measures

Fire Fighting Measures

WIM 321

NFPA HAZARD CLASSIFICATION **Health: 1 | FLAMMABILITY 0 | REACTIVITY 0**

Flash point (method) Not flammable

Flammable limits LeI ND | UE ND

Auto ignition temperature NA

IN CASE OF FIRE:

This product is noncombustible. If involved in a fire, extinguishing agents suitable for surrounding materials should be used.

SPECIAL FIRE FIGHTING PROCEDURES:

As in any fire, prevent human exposure to fire, smoke, fumes or products of combustion. Use self-contained breathing apparatus when fighting any fire in an enclosed area.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None known

HAZARDOUS DECOMPOSITION PRODUCTS: None known

SECTION VI: Accidental Release Measures

Accidental Release Measures

Spills may be slippery. Surround and adsorb all spills. Material should be collected and disposed in a proper manner. Dike the area to prevent spill from spreading. Soak up spill with a suitable absorbent such as clay, sawdust or kitty litter. Sweep up absorbed material and place in a chemical waste container for disposal. Wear suitable protective equipment.

Accidental Spills into Unauthorized Chemical Solutions

It is impossible to foresee the multitude of possible chemical combinations, which could result through misuse of these additives. When these products are not used as intended, the bath to which these chemicals have been added should be considered contaminated, and disposed and treated as a toxic waste, regardless of how innocent the combination may appear to the user.

Section VI Notes:

Dispose in accordance with local, state and federal regulations.

SECTION VII: Handling and Storage

Precautions to be taken in handling: Store in a cool dark area. Keep containers closed.

Work Hygiene Practices: Showers and eye wash should be available where chemicals are used. Wash thoroughly before eating, smoking or using toilet facilities.

SECTION VIII: Exposure Controls / Personal Protection

Precautions to be taken in handling: Store in a cool dark area. Keep containers closed.

Work Hygiene Practices: Showers and eye wash should be available where chemicals are used. Wash thoroughly before eating, smoking or using toilet facilities.

SAFETY NOTE: WIM Inc. requires that safety related clothing and protective equipment be worn and used while handling this product to minimize any accident that may occur while the product is being used. These products are used in and around chemical vats containing corrosive and hot liquids, overhead cranes, moving trucks and other hazardous stationary and moving equipment. **THUS CARE MUST BE TAKEN AT ALL TIMES TO OBSERVE ALL RELATED SAFETY MEASURES AGAINST ALL HAZARDS, EVEN THOUGH THESE PRODUCTS MAY APPEAR TO THE USER TO HAVE LIMITED OR NO HAZARDS!**

SECTION IX: Physical and Chemical Properties

Physical and Chemical Properties	WIM 321
Sp G	1.01
Boiling Range	100-103 C
Evaporation rate	NA
PH	8.5
Color	Clear to light amber, may darken with age.
Solubility	100% soluble Freezes around 0 C (32 F) returns to solution upon warming.

SECTION X: Stability and Reactivity

Stability and Reactivity

WIM 321

Stability

Stable

Incompatibility

Materials to avoid: None known

Hazardous Polymerization

Will not occur

Hazardous Decomposition Products

None known

SECTION XI: Toxicological Information

Detailed Toxicity Information: WIM 321

No data is available on the product itself

SECTION XII: Ecological Information

Water Pollution Potential: WIM 321

No quality standards or criteria have been established for this chemical by the U.S. or Canadian government.

SECTION XIII: Disposal Considerations

Recommended Disposal: WIM 321

Dispose in accordance with local, state and federal regulations.

SECTION XIV: Transport Information

Transport Information

WIM 321

DOT PROPER SHIPPING NAME

NOS LIQUID

LABEL DOT IDENT

Liquid, NOI

NFPA Hazard Codes

HEALTH 1, FIRE 0, REACTIVITY 0

SECTION XV: Regulatory Information

International Regulatory Status	WIM 321
UNEP Persistent Organic Pollutant (POP)	Not listed
UNEP Prior Informed Consent Chemical (PIC)	Not listed

SECTION XVI: Other Considerations

Disclaimer:

Special Instructions, WIM⁷ Acid Additives

WIM⁷ pickling additives can be considered under the broad term of being "relatively safe"; however, like any chemical, their safety should not be taken for granted. The label on the containers and the current SDS warns of general hazards in the area where the WIM⁷ products might be used. Many times the area hazards present a greater danger to be considered, in addition to that of the safe handling of the WIM⁷ additives. It is most important to consider **ALL** the hazards present when devising a safe handling procedure for the WIM⁷ additives. WIM Inc. will advise their customers of general handling practices but it is up to the user, which includes not only the buyer, but the people responsible for direction and actual handling of the WIM⁷ products to identify any other additional hazardous circumstances that would need to be identified and minimized where the WIM⁷ products were being used. Whenever any doubt exists we do require that you consult with your plant safety officer or a physician.

All of the WIM⁷ Additives are subject to thermal decomposition. Objectionable compounds such as carbon monoxide could easily be released as well as sulfate gasses, were such decomposition allowed to take place; since these products do contain organic and inorganic compounds, salts, alcohols, and proprietary blends of inhibitors, wetting systems and other specialty chemicals as required depending on the product formula. We can foresee such objectionable releases happening only when the product has been incinerated such as under conditions of a severe fire in a plant. The gasses emitted from such decomposition could be considered slight when placed in the context of the atmosphere of incineration. Hazards to humans would probably be slight in terms of potential decomposition as subsequent release into the atmosphere. The gasses could well become a small part of the entire net emission of thermal decomposition of the total structure and its contents which may or may not be exceptionally hazardous based on those contents. In general terms approximately <5% of the product weight might be available to enter into such thermal decomposition. Alcohols which may or may not be in the formulas are generally used in such minute quantities to act as solvents for certain compounds that the remaining solvent of water would most often off-set the relative hazard that might be associated with certain alcohols were those alcohols used in their full 100% strength.

The WIM⁷ Additives are water soluble and use water as a solvent. This by itself initially dilutes all of the compounds used to make up the various WIM⁷ additives. These chemicals are further diluted when added to the various solutions as recommended in the data sheets.

Thus, in terms of the atmosphere of incineration and the low inventory rate required of products of this type; (the use rate is low and just-in-time programs are encouraged) the risk of objectionable omissions is on the low side of a

massive release of objectionable elements into the atmosphere. This is not meant to state or imply some level of assured safety of these products but to place the potential release into the perspective of all the hazardous emissions that could occur in the event of thermal decomposition resulting from a fire; and then treating the most appropriate hazard as indicated at the time.

Fire conditions which would not lead to thermal decomposition would not be expected to cause such release of objectionable or hazardous compounds. The containers may burst depending upon their proximity to the fire; but again, the spillage should boil away and if the temperatures are severe enough, incinerate. The compounds themselves are not flammable except those which contain alcohols and most of those blends will extinguish an open flame at ambient temperatures.

Contact with the skin on eyes is another matter since the products are blended either in the alkaline or acid state. The pH of the products range from 2 to 12 and will always be a source of irritation. Prolonged contact with the products obviously will cause irritation to the skin or eyes and internal organs. First aid procedures are noted on the label and in the respective SDS sheet in the event prolonged contact would happen. Again, it is important to observe the major source of irritation to a person. If the WIM⁷ additive has been added to a pickling acid, then you would treat the acid effect either as an acid burn or as an acid irritant. The volume of WIM⁷ additive a human is exposed to may only be a major concern if the additive made up the major portion of the exposure. Generally the first aid procedures are sufficient to treat any unusual contact. This is not meant to minimize the compounds used in the WIM⁷ additives or to indicate any degree of safety by treating the major hazard first. Proper treatment is best reserved for a physician who is fully informed of the hazards involved and the relative amounts involved. A liter of pickling acid containing the normal amount of a typical WIM⁷ additive would contain about 0.3% of that volume as additive or 3 mL of which about <0.2% might be considered hazardous. The pickling acid would contain anywhere from 7% to 50% of that volume as acid. An informed physician can then make his decision as how to best treat the hazard. Again, if you have any questions as to treatment consult the Plant Safety Officer or a physician.

The product label and the WIM SDS sheets state that the use of protective clothing and equipment is required for proper safe handling of these products. This is true with any chemical. The label and SDS also state that the product should not be taken for granted even if the user does not consider the product to be hazardous as used. Any chemical cannot be taken for granted as being 100% safe. WIM acid additives with controlled depolarization control the pickle by reacting with the evolving hydrogen – one necessary element for the pickling reaction to happen – speeding up your scale removal. When the scale is gone the depolarizer stops and the inhibitor goes into action protecting the base metal. Each reaction controls your pickle better by making the acid work as efficiently as possible.

The additives are generally added to a pickle tank. These tanks may be highly acidic and heated to a very high temperature. These pickle tanks regardless of the volume of acid solution or residuals, are highly corrosive and dangerous to humans. The WIM⁷ additives are added to these acid solutions which use either commercial acid grades or diluted acid solutions. The WIM additives are generally water solvent based and because of this should be added to the acid very slowly so as to prevent any reaction or splashing that would cause the acid to splash on anyone near the pickle tank.

Where the pickle tank is made up and no automatic feeding pumps for adding the WIM⁷ additives are used it is preferred that the WIM⁷ additive be added when the level of the tank is well below any splash point. When that is not possible the additives should be added slowly to the solution. When making up a new pickle tank it is recommended that water be added first to a level of about 25% of the working level volume, then the addition of the WIM⁷ additive, then the addition of the acid, completing the charge with the remaining volume of water. The water and acid

additions plus any other moderate agitation will help mix the water, acid, and additives. An additive which contains a surface active agent or wetter will also generate a foam blanket over the tank which will help minimize any acid spray from reaching a nearby worker. The mixing method employed should not be so violent as to cause the acid mixture to splash upon anyone who happened to be near the pickle tank.

Additive additions to a pickle tank which has been brought up to a working volume with no automatic feeding pumps requires slowly adding the additive to the pickle so as not to splash any of the acid mixture upon anyone near the pickle tank. Additions of the WIM⁷ additives to an acid storage tank should be done when the acid level within the tank is low. Low enough that the addition of the additive will not splash acid back upon the person making the addition or anyone else who may be nearby.

The WIM⁷ accelerating additives; 67, 69, Naxid S, should not be added directly to sulfuric acid when the acid concentration is above 25% by weight (250 gms/liter). A direct addition to a sulfuric acid requires a depolarizer of a different composition.

ALL depolarizers can be safely added to dilute acid concentrations of <1% - 25% (0.5 - 250 gms/liter) of sulfuric acid.

ALL WIM⁷ additives can be added to a commercial HCl (hydrochloric or muriatic acid) with a commercial strength up to 35%/wt.

The general addition rule to follow is: **NEVER ADD WATER TO AN ACID.** The additives can be safely added to acid storage tanks as noted above providing extreme caution is exercised and full safety protection clothing and equipment is worn by the operator.

Special Equipment to be Worn While Using WIM⁷ Additives:

WIM Inc. prefers to see that a face shield or safety goggles be worn. This is to help minimize any of the acid, additives, or pickle solution from splashing on the face or eyes. A safety helmet will help shield the wearer from being splashed on the head as well as minimize being struck on the head by other equipment being used nearby. A rubber apron will protect the body from acid, additive or acid solution splashing on the workers clothing; and the wearing of rubber gloves will prevent the acid, additive, or acid solution from splashing on the hands or arms. Rubber boots with built-in steel caps protect the feet. People using the WIM⁷ additives might also be required to wear some appropriate protective hearing device.

All of the above mentioned items of safety equipment or clothing will protect the worker from normal hazards when handling a chemical such as the WIM⁷ additives. They are no guarantee of 100% protection against all of the hazards within the work area where the chemical is being used. They are no protection against a worker or plant safety program which does not take into consideration ALL of the potential hazards within the immediate work area. A worker or plant safety program which permits workers to ignore common safety rules and regulations when working with chemicals of any type cannot expect to be assured of any degree of safety when handling the WIM⁷ additives. Nor can WIM Inc. project every possible hazardous condition that could occur in any plant at any time that would cause the WIM⁷ additives to become, be used, or become a direct or indirect part of a hazardous situation or accident.

The pickling reaction is such that hydrogen gassing occurs when the acid is reacted with the oxide it is to remove. This is a normal evolution of H₂ and when trapped within a foam blanket it can present a hazard if ignited.

We readily acknowledge that "bad odors" can be subjective to the operator or other employees. Objectionable odors which might result from a pickling operation may be noticeable from time to time. These odors may be well known odors such as, but not limited to: the chloride fuming from a hydrochloric pickle; or sulfur particles from a sulfuric acid pickle. Employees who do find the WIM⁷ products objectionable are encouraged to use whatever approved safety equipment is available to minimize their discomfort. Through the years we have been pleased to note that complaints along these lines are virtually nonexistent.

A pickle using sulfuric acid and accompanied by its normal hydrogen gassing from the pickle reaction will cause a hydrogen bubble to burst at the surface of the pickle and will throw minute particles of the acid into the atmosphere which could irritate any exposed skin. Surface active agents (organic wetters or foamers) are generally employed and made a part of the WIM⁷ additive. These agents reduce the surface tension of the pickle solution and will minimize this hazard. In most instances the wetters used by WIM Inc. turn the bubble inwards, sort of imploding rather than causing the bubble to burst flinging acid particles into the air. Adequate air ventilation will also be a great help in removing the acid mist and when incorporated with a fume scrubber the problem is minimized even further.

A pickle using hydrochloric acid is nothing more than a gas in water and the potential of chloride evolution depends upon the atmosphere plus the activity of the pickle reaction, and the operating temperature of the bath. These fumes are partially removed by the exhaust and scrubber systems and very slightly minimized by the surface active agents or foamers.

It is entirely possible that the manufacturing facility and its own safety committee may decide that due to the fumes from a hydrogen chloride pickle or other known fumes from other products or process operations, may require the pickle operators to wear a breathing apparatus. WIM, Inc. has no objection to this or any other added safety precaution.

The safe use of the WIM⁷ additives is not up to WIM Inc. but to the people using the products on the pickle line. We can tell you what hazards the product contains as outlined by existing federal state, and local regulation and offer some ideas how to best cope with the compounds under some general operating situation. We are not empowered to see that the safety methods are carried out. It is the responsibility of the user to do that. The WIM⁷ additives are purchased with full knowledge of the hazardous compounds by way of the WIM Inc. SDS sheets which are made up from SDS sheets supplied by our suppliers. We rely upon our suppliers to keep us updated to potential risks and forward that information on to you our customer as soon as that information can be incorporated into an updated SDS. Our liability is limited to the manufacture of the products and assuring that no defects occur during the blending. WIM Inc. sells industrial chemicals for a specific purpose and those chemicals sold under a WIM label do contain known chemicals with various hazards. We cannot always blend a 100% plus safe product by chemical substitution of one compound for another and always obtain the same results. Neither can we eliminate all the various hazards within the workplace: nor can we control the use or misuse of our products once sold and placed into a manufacturing facility.

WIM is a registered trademark of WIM Inc. Naxid is a registered service mark of WIM Inc.

General Safety Information

These products are water-based liquids and the pH will vary from product to product in a range moderately acidic to moderately caustic or alkaline. **AVOID CONTACT WITH EYES SKIN OR CLOTHING!** These products are to be used only as directed for your plant or as outlined in the Product Data Sheet. WIM, Inc. requires that safety related clothing and protective equipment be worn and used while handling these products to minimize any accident that may occur while the product is being used. These products are used in and around chemical vats and tanks, which may contain corrosive and hot liquids, overhead cranes, moving trucks and other hazardous moving and stationary equipment. **THUS CARE MUST BE TAKEN AT ALL TIMES TO OBSERVE ALL RELATED SAFETY MEASURES AGAINST ALL HAZARDS, EVEN THOUGH THE PRODUCTS MAY APPEAR TO THE USER TO HAVE LIMITED OR NO HAZARDS!**

Products added to the wrong solution can be very serious and that solution should be considered as not only contaminated but treated and disposed of as a toxic waste, regardless of how innocent the solution may appear to the user.

These are industrial chemicals blended with chemicals and various compounds which are designed to perform specific industrial applications which require the use of chemicals with varying degrees of hazard as noted in the product's SDS (Safety Data Sheet) These chemicals are not intended for private use and WIM Inc. Requires that the receiver of these products whether for use or evaluation takes care to store the chemicals in a responsible manner and further instruct its employees in their proper safe use.

All chemicals may react with other chemicals under predetermined or unknown reactions, either of which may prove harmful to the health and safety of those who come in contact with the chemicals either under supervised or unsupervised conditions. Acceptance of these products into your plant or facility for use in production, testing or evaluation transfers title of the product(s), and irrevocable relieves and saves harmless WIM, Inc. Of any and all liability regarding the use of these products, and any liability or damages incurred from its chemical composition or subsequent reactions of its chemical components with other known or unknown chemicals or compounds, this includes human contact both internal and external regardless if such misuse is intentional or innocent.

When the container(s) have been emptied they should be rinsed with water and that effluent poured into one of the following: A. The same tank of solution, which the product is designed to be used or into a chemical sewer.