

From: Justin Dolzen
To: [APC Admin](#)
Subject: FW: 74-0087/978595 *Incomplete permit application*
Date: Wednesday, May 12, 2021 1:43:58 PM
Attachments: [Form APC 101 CN 0742 Dec 2017.pdf](#)
[Form APC 102 CN 0741 Dec 2017.pdf](#)
[Product Data Sheet \(PDS\) - Shot for Wheelabrator - SAE Spec Card.pdf](#)
[Safety Data Sheet \(SDS\) - Cold Saw Coolant - Doring H-32.pdf](#)
[Safety Data Sheet \(SDS\) - Shot for Wheelabrator WINOAUSA NAO en.pdf](#)
[Representative Sample - Structural Steel Mill Test Chemistry Report.pdf](#)
[Down Flow Dust Collector DFC - 4 Cartridge \(similar\).pdf](#)
[TateFab Payment - Construction Permit 978595 - Scanned from a Lexmark Multifunction Product04-28-2021-141846.pdf](#)
[Wheelabrator Roll Conveyor Shot Peening Blast Equipment.pdf](#)

Hi APC Admin,

Could you please upload the attached additional information to permit 978595?

Thanks,

Justin

From: Brandon Tate <btate@tatefabricating.com>

Sent: Wednesday, April 28, 2021 3:08 PM

To: Justin Dolzen <Justin.Dolzen@tn.gov>; Ronald Tate <rtate@tatefabricating.com>

Subject: [EXTERNAL] Re: 74-0087/978595 *Incomplete permit application*

Justin,

Attached are the applications you provided for the wheelabrator shot peening/blast process. If you could please confirm they have been completed correctly. Upon review of the process, I am uncertain if this is applicable or require. Please let me know.

Note the wheelabrator is an enclosed and filtered system, and as referenced on the application, this process uses cast steel abrasive shot (SAE J827) and grit (SAE J1993) which is chemically inert and does not present any risk to people or to the environment (Reference W Abrasives Safety Data Sheet). Potential health risks are linked to the exposure to the dust produced by the process. Emissions from the process are directed to a Down Flow Cartridge Dust Collector with four (4) Diversified Air Systems (DAS) 7FRO-2924 cartridges, each with 254 square feet of NANO fiber, MERV 15 efficiency which remove 99% of the particulate from the air stream. The cleaned air is then exhausted to the environment.

Additionally, Tate Fabricating Company, Incorporated does not conduct any dry milling or machining at our facility. Grinding is performed with hand tools/grinders which you had stated are specifically exempt. Tate has two band cold saws (Peddinghaus and KMT). Both units use a water-soluble solution for cooling the blade during cutting. Safety Data and Product sheets are attached.

The materials fabricated are carbon steel structural steel shapes of Grade ASTM A36 or A992. I have attached a representative mill test/chemistry report of the typical material which may be subject to the wheelabrator shot peening/blast, cutting, welding, and grinding (the fabricating process).

Reta Miller, within the accounting department at Tate Fabricating, reached out today and left multiple messages to pay the \$500 requested Construction Permit Application. She was unable to connect with anyone to take the payment. Subsequently a hard check has been

printed (scanned image attached) and is being expedited to TN Department of Environment and Conservation for Permit No. 978595.

Brandon Tate
for Tate Fabricating Company, Incorporated
m: 561-459-9151

From: Justin Dolzen <Justin.Dolzen@tn.gov>
Sent: Monday, April 26, 2021 5:00 PM
To: Brandon Tate <btate@tatefabricating.com>; Ronald Tate <rtate@tatefabricating.com>
Subject: RE: 74-0087/978595 *Incomplete permit application*

I'll be out tomorrow, actually. If you want to go ahead and send me some questions tomorrow though, please do. I'll take a look at them first thing Wednesday morning. Otherwise, I'm available anytime on Wednesday.

Thanks,
Justin

From: Brandon Tate <btate@tatefabricating.com>
Sent: Monday, April 26, 2021 3:03 PM
To: Justin Dolzen <Justin.Dolzen@tn.gov>; Ronald Tate <rtate@tatefabricating.com>
Subject: [EXTERNAL] Re: 74-0087/978595 *Incomplete permit application*

***** This is an EXTERNAL email. Please exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email - STS-Security. *****

Thank you for reaching out. I'm travel today and will be in touch tomorrow so we may finalize any remaining details you may need.

Brandon Tate for
Tate Fabricating Company, Inc.
561-459-9151
Get [Outlook for iOS](#)

From: Justin Dolzen <Justin.Dolzen@tn.gov>
Sent: Monday, April 26, 2021 3:15:37 PM
To: Ronald Tate <rtate@tatefabricating.com>
Cc: Brandon Tate <btate@tatefabricating.com>
Subject: FW: 74-0087/978595 *Incomplete permit application*

Mr. Tate,

Just wanted to follow up again on this incomplete letter (attached) since the deadline is this Friday. Please let me know if you have any questions.

Thanks,



Justin Dolzen | Environmental Protection Specialist
Division of Air Pollution Control

William R. Snodgrass Tennessee Tower, 15th Floor
312 Rosa L. Parks Avenue
Nashville, TN 37243
p. 615-532-0575

Hours: M,W-F: 7:30 am – 6 pm CST

www.tn.gov/environment/air.shtml

Tell us how we're doing! Please take 5-10 minutes to complete our survey see below.

External Customers: [customer satisfaction survey](#).

Internal (TDEC Divisions) Customers: [customer satisfaction survey](#).

This electronic mail may be subject to the Tennessee Public Records Act, Tenn. Code Ann. §10-7-503 et seq. Any reply to this email may also be subject to this act.

From: Justin Dolzen

Sent: Monday, April 12, 2021 6:00 PM

To: Ronald Tate <rtate@tatefabricating.com>

Cc: btate@tatefabricating.com

Subject: 74-0087/978595

Mr. Tate,

This is a courtesy reminder that the deadline to submit the information requested by the attached letter is April 30, 2021. Please let me know if you have any questions while preparing the information.

Thank you,



Justin Dolzen | Environmental Protection Specialist
Division of Air Pollution Control

William R. Snodgrass Tennessee Tower, 15th Floor
312 Rosa L. Parks Avenue
Nashville, TN 37243
p. 615-532-0575

Hours: M,W-F: 7:30 am – 6 pm CST

www.tn.gov/environment/air.shtml

Tell us how we're doing! Please take 5-10 minutes to complete our survey see below.

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**NON-TITLE V PERMIT APPLICATION
EMISSION POINT DESCRIPTION**

Type or print and submit for each stack or air contaminant source. Submit with the APC 100.					
GENERAL IDENTIFICATION AND DESCRIPTION					
1. Organization's legal name and SOS control number [as registered with the TN Secretary of State (SOS)] Tate Fabricating Company, Incorporated (74-0087)					
2. Unique Source ID (name/number/letter which uniquely identifies this air contaminant source, like Boiler #1) Wheelabrator					
3. Unique Emission Point ID (name/number/letter which uniquely identifies this emission point, like Stack #1) WB1					
4. Brief description of air contaminant source (Attach a diagram if appropriate): An enclosed shot peening/blast conveyor machine with 4 cartridge downward dust collection/filtration system for use to remove excessive rust and mill scale from structural steel (wide flange and hollow structural steel shapes).					
5. Emission point location	Latitude 36°28'43.50"N	Longitude 86°40'53.43"W	6. Distance to nearest property line (Ft.) 113'		
STACK AND EMISSION DATA					
7. Stack or emission point data: →	Height above grade (Ft.) 8'	Diameter (Ft.) 1'	Temperature (°F) Ambient	% of time over 125°F Not Applicable	Direction of exit (Up, down or horizontal) horizontal
Data at exit conditions: →	Flow (actual Ft. ³ /Min.)	Velocity (Ft. /Sec.)	Moisture (Grains/Ft. ³) Not Applicable		Moisture (Percent) Not Applicable
Data at standard conditions: →	Flow (Dry std. Ft. ³ /Min.)	Velocity (Ft. /Sec.)	Moisture (Grains/Ft. ³) Not Applicable		Moisture (Percent) Not Applicable
8. Monitoring device and recording instrument (check all that apply): Opacity monitor <input type="checkbox"/> SO ₂ monitor <input type="checkbox"/> NO _x monitor <input type="checkbox"/> Strip chart <input type="checkbox"/> Electronic data logger <input type="checkbox"/> Other (specify in comments) <input type="checkbox"/> No monitor (none) <input checked="" type="checkbox"/>					
9. Control device. Description of proposed monitoring, recordkeeping, and reporting to assure compliance with emission limits. Include operating parameters of control device (flow rate, temperature, pressure drop, etc.). Cast steel abrasive shot (SAE J827) and Grit (SAE J1993) is chemically inert and does not present any risk to people or to the environment (Reference W Abrasives Safety Data Sheet). Potential health risks are linked to the exposure to the dust produced by the process. Emissions from the process are directed to a Down Flow Cartridge Dust Collector with four (4) Diversified Air Systems (DAS) 7FRO-2924 cartridges, each with 254 square feet of NANO fiber, MERV 15 efficiency which remove 99% of the particulate from the air stream. The cleaned air is then exhausted to the environment.					

10. Air contaminants. Emission estimates for each air contaminant emitted from this point should be based on stack sampling results or engineering calculations. Calculations should be attached on a separate sheet. (see instructions for more details)

Air contaminants	Average Emissions (Lbs./Hr.)	Maximum Emissions (Lbs./Hr.)	Concentration	Average Emissions (Ton/Yr.)	Potential Emissions (Ton/Yr.)	Emissions Estimation Method Code *	Control Devices *	Control Efficiency %
Particulate matter (PM)			**					
Sulfur dioxide (SO ₂)			***					
Carbon monoxide (CO)			PPM					
Volatile organic compounds (VOC)			PPM					
Nitrogen oxides (NO _x)			PPM					
Hydrogen fluoride (HF)								
Hydrogen chloride (HCl)								
Lead (Pb)								
Greenhouse gases (CO ₂ equivalents)								
Hazardous air pollutant (specify)								
Hazardous air pollutant (specify)								
Hazardous air pollutant (specify)								
Hazardous air pollutant (specify)								
Hazardous air pollutant (specify)								
Other (specify)								
Other (specify)								
Other (specify)								
Other (specify)								

11. Comments**SIGNATURE**

If this form is being submitted at the same time as an APC 100 form, then a signature is not required on this form. Date this form regardless of whether a signature is provided. If this form is NOT being submitted at the same time as an APC 100 form, then a signature is required.

Based upon information and belief formed after a reasonable inquiry, I, as the responsible person of the above mentioned facility, certify that the information contained in this application is accurate and true to the best of my knowledge. As specified in TCA Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

12. Signature

Brandon Tate

Digitally signed by Brandon Tate
Location: Palm Beach Gardens, FL
Contact Info: 561 459 9151
Date: 2021.04.28 15:22:35-0400

Date

April 28, 2021

Signer's name (type or print)

Brandon Tate

Title

Secretary

Phone number with area code

561-459-9151

- * Refer to the tables in the instructions for estimation method and control device codes.
- ** Exit gas particulate matter concentration units: Process – Grains/Dry Standard Ft³ (70°F), Wood fired boilers - Grains/Dry Standard Ft³ (70°F), all other boilers – Lbs. /Million BTU heat input.
- *** Exit gas sulfur dioxide concentrations units: Process – PPM by volume, dry bases, and boilers – Lbs. /Million BTU heat input



DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF AIR POLLUTION CONTROL
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor, Nashville, TN 37243
Telephone: (615) 532-0554, Email: Air.Pollution.Control@TN.gov

APC 102

NON-TITLE V PERMIT APPLICATION
PROCESS OR FUEL BURNING SOURCE DESCRIPTION

Type or print. Submit with the APC 100.			
GENERAL IDENTIFICATION AND DESCRIPTION			
1. Organization's legal name and SOS control number [as registered with the TN Secretary of State (SOS)] Tate Fabricating Company, Incorporated		2. Emission Source Reference Number WB1	
3. Is this air contaminant source subject to an NSPS or NESHAP rule? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If Yes, list rule citation, including Part, Subpart, and applicable Sections:			
4. Unique Source ID (see instructions) Wheelabrator/Dust Collector		5. Unique Emission Point ID (see instructions) WB1	
6. Description of air contaminant source Cast steel abrasive shot (SAE J827) and Grit (SAE J1993) is chemically inert and does not present any risk to people or to the environment (Ref: W Abrasives Safety Data Sheet). Potential health risks are linked to the exposure to the dust from the process. Emissions are directed to a Dust Collector with (4) Diversified Air Systems 7FRO-2924 cartridges which remove 99% of the particulate from the air stream. The cleaned air is return to the environment			
7. Type of air contaminant source (Check only one option to the right)			
Process Emission Source: For each process emission source, submit a separate application. (Check at right and complete lines 8, 9, and 14)			<input type="checkbox"/>
Process Emission Source with in process fuel: Products of combustion contact materials heated. For each process emission source, submit a separate application. (Check at right and complete lines 8 through 14)			<input type="checkbox"/>
Non-Process fuel burning source: Products of combustion do not contact materials heated. Complete this form for each boiler or fuel burner and complete a Non-Title V Emission Point Description Form (APC 101) for each stack. (Check at right and complete lines 10 through 14)			<input type="checkbox"/>
PROCESS EMISSION SOURCE DESCRIPTION AND DATA			
8. Type of operation: Continuous <input type="checkbox"/> Batch <input checked="" type="checkbox"/>		Normal batch time 1-2 hours	Normal batches/day 1 X PER WEEK AVG
9. Process material inputs and In-process solid fuels	Diagram reference	Input rates (pounds/hour)	
		Design	Actual
A.			
B.			
C.			
D.			
E.			
F.			
G.			
Totals			

* A simple process flow diagram must be attached.

DESCRIPTION OF BOILER, BURNER, ENGINE, OR OTHER FUEL BURNING SOURCE							
10. Boiler or burner data: (Complete lines 10 through 14 using a separate form for each boiler, burner, etc.)							
Serial Number NOT APPLICABLE				Type of firing*** NOT APPLICABLE			
Rated horsepower NOT APPLICABLE		Rated input capacity (10 ⁶ BTU/Hr.) NOT APPLICABLE		Other rating (specify capacity and units) NOT APPLICABLE			
Date constructed NOT APPLICABLE		Date manufactured NOT APPLICABLE		Date of last modification (explain in comments below) NOT APPLICABLE			
** Source with a common stack will have the same stack number. *** Cyclone, spreader (with or without reinjection), pulverized (wet or dry bottom, with or without reinjection), other stoker (specify type, hand fired, automatic, or other type (describe below in comments)).							
FUEL USED IN BOILER, BURNER, ENGINE, OR OTHER FUEL BURNING SOURCE							
11. Fuel data: (Complete for a process emission source with in process fuel or a non-process fuel burning source)							
Primary fuel type (specify) NOT APPLICABLE				Standby fuel type(s) (specify) NOT APPLICABLE			
Fuels used	Annual usage	Hourly usage		% Sulfur	% Ash	BTU value of fuel	(For APC use only) SCC code
		Design	Average				
Natural gas:	10 ⁶ Cu. Ft.	Cu. Ft.	Cu. Ft.	//////// ////////	//// ////	1,000	
#2 Fuel oil:	10 ³ Gal.	Gal.	Gal.		//// ////		
#5 Fuel oil:	10 ³ Gal.	Gal.	Gal.		//// ////		
#6 Fuel oil:	10 ³ Gal.	Gal.	Gal.		//// ////		
Coal:	Tons	Lbs.	Lbs.				
Wood:	Tons	Lbs.	Lbs.	//////// ////////	//// ////		
Liquid propane:	10 ³ Gal.	Gal.	Gal.	//////// ////////	//// ////	85,000	
Other (specify type & units):							
12. If Wood is used as a fuel, specify types and estimate percent by weight of bark NOT APPLICABLE.							
13. If Wood is used with other fuels, specify percent by weight of wood charged to the burner. NOT APPLICABLE.							

14. Comments**SIGNATURE**

If this form is being submitted at the same time as an APC 100 form, then a signature is not required on this form. Date this form regardless of whether a signature is provided. If this form is NOT being submitted at the same time as an APC 100 form, then a signature is required.

Based upon information and belief formed after a reasonable inquiry, I, as the responsible person of the above mentioned facility, certify that the information contained in this application is accurate and true to the best of my knowledge. As specified in TCA Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

15. Signature

Brandon Tate

Digitally signed by Brandon Tate
Location: Palm Beach Gardens, FL
Contact Info: 561-459-9151
Date: 2021.04.28 15:28:54-04'00'

Date

APRIL 28, 2021

Signer's name (type or print)

BRANDON TATE

Title

SECRETARY

Phone number with area code

561-459-9151

DIVERSIFIED AIR SYSTEMS, INC.

MAXFLO™

Down Flow Cartridge Dust Collector

- ***Heavy duty construction 7 & 10 gauge steel***
- ***Quick ship available on 8 to 24 cartridge units and 5 to 30 HP motors/blowers***
- ***Digital controlled reverse pulse cleaning system***



- ***No internal cartridge support to interfere with filter cleaning system***
- ***Cam lock easy access filter door handle***
- ***Made in U.S.A.***

Superior technology generating substantial operating savings

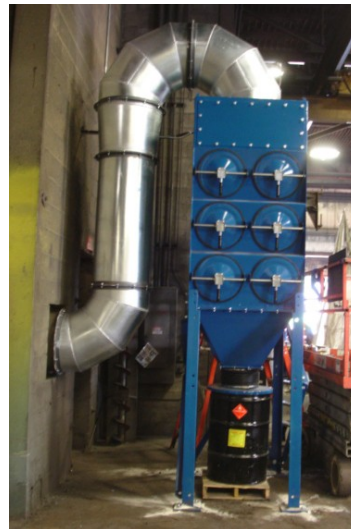
Having been in the air cleaning business since 1982, Diversified Air Systems, Inc. is changing the industry by providing you with knowledge, experience, and affordable quality. We have been designing and selling air cleaning systems for years and now we are building them.

Diversified Air Systems, Inc. is proud to offer the very best in dust collection. The MAXFLO line of downward flow dust collectors is the answer to all your air quality issues. With capabilities from 1,000 CFM to 100,000 CFM and up we have a solution for all your air cleaning needs.

The operation of our MAXFLO dust collectors is simple and uses proven technology. The high efficiency cartridge filters remove up to 99% of the particulate from the air stream. The cleaned air is then directed to the location of choice, either returned to the facility or exhausted to the environment.

The unit is equipped with a reverse-pulse filter cleaning system and a digital, solid state pulse control panel. The panel has an on-board pressure switch allowing for on-line, on-demand and down time cleaning. All this is enclosed in a weatherproof housing.

When manufacturing our dust collector we eliminated the filter support frame or "yoke". By eliminating this, we have removed the obstruction that can interfere with the filter cleaning process thereby improving the filter cleaning ability. We have also incorporated a quick-lock, easy access filter door. With this door there will be no more twisting knobs until your wrists are aching. Simply set the door in place and pull the handle down to lock the cam. We have used only aluminum and stainless steel parts in the construction of the door cam and mounting brackets so that they weather well in outdoor installations.



Note: Specifications listed above may be modified to suit application. contact D.A.S. or representative for information.

Diversified Air Systems, Inc.

10801 Electron Drive, Louisville, Kentucky 40299

Toll free: **(800) 264-8958**

Tel.: **(502) 267-0333** • Fax: **(502) 267-4241**

Website: www.diversair.com • email: info@diversair.com

Continuous product improvement is a policy of D.A.S. Inc. Product features and specifications may be modified without prior notice

DIMENSIONS

SIMILAR



MODEL	WIDTH	DEPTH	HEIGHT	# OF FILTERS	FILTER AREA	WEIGHT
DFC-2-4	40"	61"	121"	4	1,016	1,250
DFC-2-8	40"	87"	127"	8	2,032	1,850
DFC-3-12	40"	87"	146"	12	3,048	2,250
DFC-4-16	40"	87"	164"	16	4,064	2,700
DFC-5-20	40"	87"	178"	20	5,080	2,850
DFC-3-24	80"	87"	146"	24	6,096	3,500
DFC-4-32	80"	87"	164"	32	8,128	3,900
DFC-4-48	120"	87"	164"	48	12,192	5,400
DFC-4-64	160"	87"	164"	64	16,256	6,700
DFC-4-80	200"	87"	164"	80	20,320	8,300

STANDARD FEATURES:

- Heavy duty construction, 7 & 10 gauge steel
- Each filter has 254 square feet of NANO fiber, MERV 15 efficiency
- Reverse-pulse filter cleaning system
- Pulse control timer board with a built-in digital pressure gage in a weather proof housing
- Air venturis for optimum filter cleaning
- Lifting lugs
- Drum lid
- 1 year warranty

OPTIONAL FEATURES:

- Ductwork
- Other filter media options
- Abrasive inlet plenum
- Complete line of motor/blowers
- Silencers
- Rotary air locks
- Explosion vents
- Custom paint
- Spark coolers



Note: Specifications listed above may be modified to suit application. contact D.A.S. or representative for information.

Diversified Air Systems, Inc.

10801 Electron Drive, Louisville, Kentucky 40299

Toll free: **(800) 264-8958**

Tel.: **(502) 267-0333** • Fax: **(502) 267-4241**


Website: www.diversair.com • email: info@diversair.com



US-ML-CARTERSVILLE
384 OLD GRASSDALE ROAD NE
CARTERSVILLE, GA 30121
USA

CERTIFIED MATERIAL TEST REPORT

Page 1 / 1

 US-ML-CARTERSVILLE 384 OLD GRASSDALE ROAD NE CARTERSVILLE, GA 30121 USA	CUSTOMER SHIP TO ALLIED CRAWFORD INC 3719 AMY LYNN DR NASHVILLE,TN 37218-3813 USA		CUSTOMER BILL TO ALLIED CRAWFORD NASHVILLE INC 3719 AMY LYNN DR NASHVILLE,TN 37218-3813 USA		GRADE A992/A572-50		SHAPE / SIZE Wide Flange Beam / 8 X 18# / 200 X 26.6		DOCUMENT ID: 0000358380			
					LENGTH 60'00"		PCS 8		WEIGHT 8,640 LB		HEAT / BATCH 55068588/04	
	SALES ORDER 9308388/000010		CUSTOMER MATERIAL N°		SPECIFICATION / DATE or REVISION ASTM A6-17 ASTM A709-17 ASTM A992-11 (2015), A572-15 CSA G40.21-13 345WM, 50W							
	CUSTOMER PURCHASE ORDER NUMBER 120830-219		BILL OF LADING 1323-0000166801		DATE 10/05/2020							

CHEMICAL COMPOSITION											
C (%)	Mn (%)	P (%)	S (%)	Si (%)	Cu (%)	Ni (%)	Cr (%)	Mo(%)	Sn (%)	V (%)	Nb (%)
0.15	0.94	0.011	0.024	0.18	0.27	0.18	0.14	0.042	0.009	0.001	0.009

MECHANICAL PROPERTIES											
YS 0.2% (PSI)		UTS (PSI)		YS (MPa)		UTS (MPa)		Y/T rati (%)		G/L (Inches)	
59800		80000		412		552		0.750		8.000	
59500		80100		410		552		0.740		8.000	
										Elong. (%)	
										27.10	
										25.30	

COMMENTS / NOTES											

The above figures are certified chemical and physical test records as contained in the permanent records of company. We certify that these data are correct and in compliance with specified requirements. Weld repair has not been performed on this material. This material, including the billets, was melted and manufactured in the USA. CMTR complies with EN 10204 3.1.

Bhaskar

BHASKAR YALAMANCHILI
QUALITY DIRECTOR

Phone: (409) 267-1071 Email: Bhaskar.Yalamanchili@gerdau.com

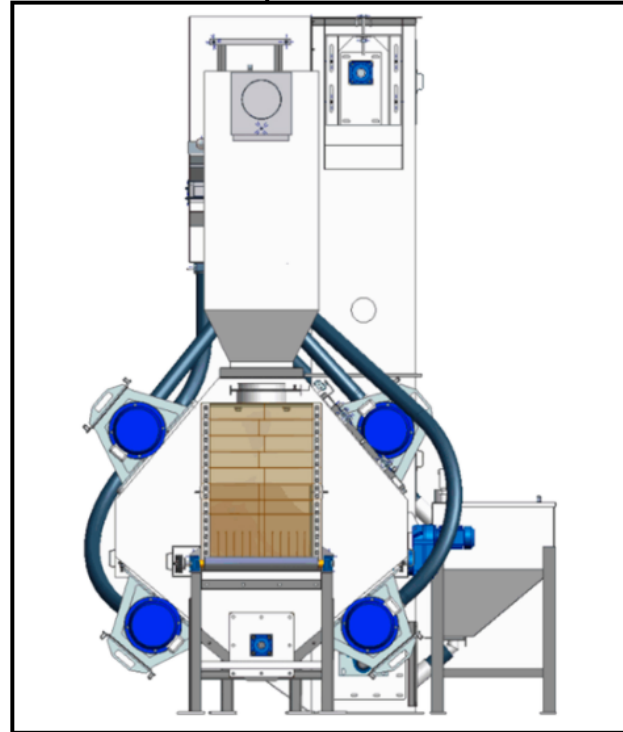
yan wang

YAN WANG
QUALITY ASSURANCE MGR.

Phone: (770) 387 5718 Email: yan.wang@gerdau.com

Pre-Blast Roll Conveyor Model 2436

SIMILAR



Key Benefits



Fully automated system that reduces high labor costs



High productivity for cleaning a variety of structural shapes and fabrications



Can easily be integrated into existing production line



Leading technology, outstanding performance

Features

- 18-inch x 24-inch cleaning envelope will clean a variety of structural shapes including square and rectangular tubing angles, H and I beams
- Manganese Blast Compartment
- Cast manganese rolls in blast zone
- Four (4) direct drive blast wheels with cast
- Manganese wheel housing
- Low overall height for installation into low ceiling shops
- Service and support by Wheelabrator

Applications

The Wheelabrator pre-blast roll conveyor is ideal for today's structural fabricator. A flexible solution for the surface preparation of a variety of structural shapes prior to fabrication processes.



W Abrasives®

SAE Shot and Grit Specifications (SAE J827 & J1993)

PROPERTIES	SHOT	GP	GB	GL	GH
SIZE	All material is screened to meet or exceed SAE J444.				
CHEMISTRY <i>Carbon</i> <i>Sulfur</i> <i>Phosphorus</i>	0.80 –1.20 Less than 0.05 Less than 0.05	0.80 –1.20 Less than 0.05 Less than 0.05	0.80 –1.20 Less than 0.05 Less than 0.05	0.80 –1.20 Less than 0.05 Less than 0.05	0.80 –1.20 Less than 0.05 Less than 0.05
A.V. HARDNESS	40–51 Rc	40–51 Rc	47–56 Rc	54–61 Rc	min 60 Rc
HARDNESS DEVIATION*	Maximum average deviation is ± 3.0 Rc				
MICROSTRUCTURE	Highly refined and homogeneous tempered martensite				Martensite Homogeneous
MINIMUM DENSITY (as determined by displacement of alcohol)	7.0g/cc	7.3g/cc	7.3g/cc	7.3g/cc	7.3g/cc

* Hardness is tested with a Microhardness Tester with Knoop Indenter, 1000 gram load or equivalent.

W Abrasives steel abrasives sizes and general applications

(Based on results obtained with a 19½" dia. w/a at 2250 R.P.M.)

W ABRASIVES STEEL SHOT	APPROX SIZE OF ABRASIVE	"ARC HEIGHT" EXPECTED IN PEENING APPLICATION	SHOT FINISH PRODUCED	GENERAL APPLICATIONS	CORRESPONDING SAE GRIT SIZE	GRIT FINISH PRODUCED
(none) (none)	.002" .004"			Blasting of small ferrous & non-ferrous work & machined parts. Removal of very light scale.	* G-120	Very light etch-Matte or satin finish
• S-70 • S-110 • S-170	.007" .011" .017"	.004 to .007 A .007 to .011 A .012 to .015 A	Fine, smooth shot finish. Excellent coverage.	Blasting of relatively small ferrous and non-ferrous castings. Removal of light scale from forgings & heat treated parts. Blasting of machined parts. Removal of mill scale, rust and other deposits.	G-80 G-50 G-40	Medium etch
• S-230 • S-280 • S-330	.023" .028" .033"	.016 to .019 A .020 to .024 A .024 to .028 A	Medium, light shot finish. Good coverage.	Blasting of grey iron, malleable iron, light steel castings, medium forgings, heat treated parts & heavy mill scale, - rust & other deposits.	G-25	Sharp etch
• S-390 • S-460 • S-550	.039" .046" .055"	.007 to .011 C .012 to .016 C	Average to heavy shot finish. Average coverage.	Blasting of steel, heavy malleable iron and grey iron castings. Removal of scale from large billets, slabs - rust & other deposits.	G-18 G-16 G-14	Deep etch rough
• S-660 • S-780	.066" .078"		Rough coverage. Adequate for most applications.	Heavy steel castings. Removal of tough heavy scale.	* G-12	Very rough

The above chart lists the abrasive sizes most commonly used in blasting operations - the encircled dots to the left of the SAE number represent the approximate shape and size of actual abrasive pellets. The round W Abrasives Steel Shot is heat treated and drawn to a hardness of 40 to 51 Rockwell "C". W Abrasives angular products are available in various degrees of hardness.

* Not often used



W Abrasives®

SAE SHOT AND GRIT

S H O T

product	7	8	10	12	14	16	18	20	25	30	35	40	45	50	80	120	200
S780	AP		85% min	97% min													
S660		AP		85% min	97% min												
S550			AP		85% min	97% min											
S460			AP	5% max	85% min	96% min											
S390				AP	5% max	85% min	96% min										
S330					AP	5% max	85% min	96% min									
S280						AP	5% max	85% min	96% min								
S230							AP	10% max	85% min	97% min							
S170								AP	10% max	85% min	97% min						
S110									AP	10% max		80% min	90% min				
S70											AP	10% max		80% min	90% min		
Screen Number	7	8	10	12	14	16	18	20	25	30	35	40	45	50	80	120	200
Screen Size (mm)	2.80	2.36	2.00	1.70	1.40	1.18	1.00	0.85	0.71	0.60	0.50	0.425	0.355	0.30	0.180	0.125	0.075
Screen Size (inches)	0.111	0.0937	0.0787	0.0661	0.0555	0.0469	0.0394	0.0331	0.0278	0.0234	0.0197	0.0165	0.0139	0.0117	0.007	0.0049	0.0029

G R I T

product	7	8	10	12	14	16	18	20	25	30	35	40	45	50	80	120	200
G.12		AP		80% min	90% min												
G.14			AP		80% min	90% min											
G.16				AP		75% min	85% min										
G.18					AP		75% min	85% min									
G.25						AP		70% min		80% min							
G.40							AP			70% min	80% min						
G.50								AP			65% min	75% min					
G.80										AP		65% min	75% min				
G.120											AP		60% min	70% min			
Screen Number	7	8	10	12	14	16	18	20	25	30	35	40	45	50	80	120	200
Screen Size (mm)	2.80	2.36	2.00	1.70	1.40	1.18	1.00	0.85	0.71	0.60	0.50	0.425	0.355	0.30	0.180	0.125	0.075
Screen Size (inches)	0.111	0.0937	0.0787	0.0661	0.0555	0.0469	0.0394	0.0331	0.0278	0.0234	0.0197	0.0165	0.0139	0.0117	0.007	0.0049	0.0029

USA PLANT/OFFICE

1 Abrasive Avenue
Bedford, VA 24523 USA
800.207.4691 | 540.586.6286 fax

CANADA PLANT/OFFICE

650 Rusholme Road
Welland, Ontario L3B 5R4 Canada
800.207.4691

www.wabrasives.com



SAFETY DATA SHEET (SDS)

1. Identification of the Substance and of the Company

Product Name: Doringer H-32

Product Use: Industrial water soluble fluid for metalworking applications.
Consult Technical Data Sheet (TDS) for usage information.

Company: Far West Oil Company, Inc.
139 West Mindanao Street.
Bloomington, CA. 92316
Phone : 1-909-873-1500

Information / Emergency Telephone
CHEMTREC: 1-800-424-9300
FAR WEST OIL COMPANY, INC: 1-818-679-5080

2. Hazard Identification

Physical Hazards: Not Classified

Health Hazards: Not Classified

Environmental Hazards: Not Classified

OSHA Defined Hazards: Not Classified

GHS-US Label elements Pictogram

Hazard Symbol: None

Signal Word: None

Hazard Statement(s)

This product does not meet the criteria for classification

Precautionary Statement(s)

Prevention:

P202 Do not handle until all safety precautions have been read and understood.

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P281 Use personal protective equipment as required.

Response:

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. **DO NOT** induce vomiting.

Storage:

P404 Store in a closed container.

Disposal:

P501 Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) Not Otherwise Classified (HNOC): Persons with preexisting skin or respiratory disorders may have their conditions aggravated by overexposure to this material.

3. Composition/ Information on Ingredients

Substances:

Chemical Name:	CAS Number	Percent by Weight
Distillate (Petroleum) Hydrotreated Heavy Napthenic	64742-52-5	1 - 3

4. First-Aid Measures

Eye Contact: Avoid contact with eyes. If contact occurs, immediately flush eyes with water. If easy to do, remove contact lenses. Get medical attention.

Skin Contact: Wash affected area with mild soap and water. If skin irritation occurs, get medical attention.

Inhalation: Not expected to be a problem. However, if respiratory irritation occurs due to excessive vapor or mist exposure, get medical attention.

Ingestion: Do not induce vomiting. If ingested, get medical attention immediately.

Most Important Symptoms and Effects, Both Acute and Delayed:

Eye: Not expected to cause prolonged or significant irritation.

Skin: Not expected to cause prolonged or significant irritation.

Inhalation: Not expected to cause prolonged or significant irritation. Symptoms may include coughing and difficulty breathing.

Ingestion: Harmful if swallowed. No specific data.

5. Fire Fighting Measures

Extinguishing Media:

Suitable Extinguishing Media: Foam, water fog, dry chemical, CO2.

Unsuitable Extinguishing Media: Straight streams of water.

Specific Hazards Arising from the Substance or Mixture: During fire, gases hazardous to health may be formed.

Special Protective Equipment and Precautions for Firefighters: Wear full protective firegear including self-containing breathing apparatus operated in the positive pressure mode with full facepiece, coats, pants, and boots.

Fire Fighting Equipment/Instructions: Do not enter confined fire space without proper protective equipment, including self-contained breathing apparatus. Cool containers with water spray. Move containers from fire area if you can do so without risk.

Specific Methods: Use standard firefighting procedures and consider the hazards of other involved materials.

General Fire Hazards: Mixture contains water. If mixture becomes ignited, treat as a petroleum oil fire.

Hazardous Combustion Products: Carbon dioxide, oxides of sulfur and nitrogen.

6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: Ensure adequate ventilation. Keep unnecessary personnel away. Wear eye protection, rubber gloves, Tyvek type coveralls and rubber boots.

Methods and Materials for Containment and Clean up: Stop leak if you can do so without risk. Dike the spilled material, where this is possible. Use oil absorbant material such as earth or sand to soak up product and place into a container for later disposal or recovery.

Environmental Precautions: Avoid discharge into drains, water courses or onto the ground.

7. Handling and Storage

Precautions for Safe Handling: Avoid fire, sparks, and flame. Avoid breathing dust, vapor, mist, or gas. Avoid contact with eyes, skin, and clothing. Do not swallow. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately. Wash hands and other exposed areas with mild soap and water after handling. Handle in accordance with good industrial hygiene and safety procedures.

Conditions for Safe Storage, Including any Incompatibles: Keep container tightly closed. Keep container in a cool, well-ventilated area. Keep container dry. Keep away from heat. Keep away from sources of ignition. Keep away from strong oxidizing agents.

8. Exposure Controls / Personal Protection

Occupational Exposure Limits:

Component	Agency	TWA
Distillate (Petroleum) Hydrotreated Heavy Napthenic	OSHA	5mg/m3
	ACGIH	5mg/m3

Biological Limit Values: No biological exposure limits noted for ingredient(s).

Appropriate Engineering Controls: Provide adequate ventilation to keep airborne concentrations of this material below the established exposure standard. Use appropriate containment to avoid environmental contamination.

Individual Protection Measures, such as Personal Protective Equipment:

Eye/Face Protection: Wear appropriate safety glasses, goggles, or full-face shield.

Skin Protection:

Hand Protection: Wear appropriate protective gloves to prevent skin exposure. Dispose of contaminated gloves after use in accordance with applicable laws.

Other: If necessary, wear appropriate protective clothing.

Respiratory Protection: If operating conditions create airborne concentrations that exceed the exposure standard for this product, the use of an approved NIOSH/OSHA respirator for organoc vapors or air supplied breathing equipment is recommended.

Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and Chemical Properties

Appearance

Physical State:	Liquid
Form:	Water Consistency
Color:	Blue
Odor:	Mild
Odor Threshold:	No data available
pH:	<8.8
Melting/Freezing Point:	32 F
Boiling Point: @760 degrees mmHg:	No data available
Flash Point: COC degees F:	None
Evaporation Rate (Ethyl Ether = 1:	<1
Flammability (solid/gas):	Not Applicable
Upper/Lower Limit on Flammability or Explosive Limits:	
Flammability Limit - Upper (%):	No data available
Flammability Limit - Lower (%):	No data available
Explosive Limit - Upper (%):	No data available
Explosive Limit - Lower (%):	No data available
Vapor Pressure: @100 degrees F mmHg:	<0.1
Vapor Density (Air = 1):	No data available
Relative Density:	No data available
Solubility(ies)	
Solubility in Water:	Complete
Solubility (other):	No data available
Partition Coefficient (n-octanol/water):	No data available
Auto-Ignition Temperature:	No data available
Decomposition Temperature:	No data available
Viscosity @ 40 degrees C (104 degrees F):	Not Applicable
Other Information	
Specific Gravity (Water = 1):	1.0 - 1.03
Flash Point Class:	Not Combustible
VOC (g/l):	>30

10. Stability and Reactivity

Reactivity: Non-reactive.

Chemical Stability: Stable.

Possibility of Hazardous Reactions: No dangerous reaction known under normal use, storage or transport.

Conditions to avoid: Oxidizing Agents.

Incompatibilities with Other Materials: Keep away from heat sources and strong oxidizing agents.

Hazardous decomposition products: Normal combustion forms carbon dioxide and may produce oxides of sulfur and nitrogen. Incomplete combustion can produce carbon monoxide.

Hazardous polymerization: Will not occur.

11. Toxicological Information

Information on Likely Routes of Exposure

Eye Contact: Direct contact with eyes may cause temporary irritation.

Skin Contact: Direct contact with skin may cause temporary irritation.

Inhalation: High concentration of oil mist may cause temporary irritation.

Ingestion: Not a likely route of entry. No data available.

Symptoms Related to the Physical chemical and Toxicological Characteristics:

May cause mild skin and eye irritation. Skin symptoms may include redness, edema, drying, defatting and cracking of the skin. Eye symptoms may include stinging and tearing. May cause respiratory irritation under heavy misting conditions. Respiratory symptoms may include upper respiratory irritation, coughing, and breathing difficulties. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Information on Toxicological Effects

Acute Toxicity

Oral: Low order of acute oral toxicity.

Dermal: Low order of acute dermal toxicity.

Inhalation: Low order of acute toxicity.

Skin Corrosion/Irritation: Possible mild skin irritant. Repeated or prolonged contact with skin may cause irritation.

Serious Eye Damage/Eye Irritation: Possible mild eye irritant. May cause redness and transient pain.

Respiratory Sensitization: Inhalation of oil mist or vapors at elevated temperatures may cause respiratory irritation.

Skin Sensitization: Not a skin sensitizer.

Specific Target Organ Toxicity - Single Dose: Not classified, however if material is misted or if vapors are generated from heating, exposure may cause irritation of the mucous membranes and the upper respiratory tract.

Aspiration Hazard: Not an aspiration hazard.

Chronic Effects

Germ Cell Mutagenicity: This product and ingredients are not considered mutagenic based on available data.

Carcinogenicity: This product and ingredients are not considered carcinogenic based on available data from ACGIH, NTP, OSHA, and IARC lists.

OSHA Specifically Regulated Substances (29 cfr 1910.1001-1050): Not listed.

Reproductive Toxicity: This product is not expected to cause reproductive or developmental effects.

Specific Target Organ Toxicity - Repeated Dose: Not classified, however if material is misted or if vapors are generated from heating, exposure may cause irritation of the mucous membranes and the upper respiratory tract.

Other Information: None

12. Ecological Information

Ecotoxicity: No mortality or other adverse reactions to the exposures during or after 96 h.

Persistence and Degradability: Direct photolysis will not contribute to a measurable degradative removal of chemical components in this category from the environment.

Bioaccumulative Potential: Inherently biodegradable.

Mobility in Soil: No Data Available.

Other Adverse Effects: Advise authorities if product has entered or may enter watercourses or sewer drains.

13. Disposal Considerations

Disposal Instructions: Collect and reclaim or dispose in sealed containers with licensed disposal businesses.

Local Disposal Regulations: Dispose in accordance with all applicable regulations.

Hazardous Waste Code: No EPA waste numbers are applicable for this product or this product's components.

Waste from Residues / Unused Product: This product is not a characteristic hazardous waste under RCRA. Check with local licensed disposal business for recycling information.

Contaminated Packaging: Dispose in accordance with all applicable regulations.

14. Transport Information

DOT: Not Regulated.

IMDG: Not Regulated.

IATA: Not Regulated.

Transport in Bulk According to Annex II of Marpol73/78 and the IBC Code:

Not Regulated.

Proper Shipping Description: Compound Soap N.O.S. Class 55

15. Regulatory Information

U.S. Federal Regulations

OSHA Classification: 29 CFR 1910.1200 (Hazard Communication) required.

Carcinogen Staus: This product and ingredients are not classified as a carcinogen by IARC, NTP or OSHA.

TSCA Inventory Status: Ingredients are on TSCA inventory list.

CERCLA: This product and ingredients are not classified as hazardous substance under CERCLA.

SARA III

302 / 304: This product and ingredients are not listed as extremely hazardous substances in 40 CFR Part 355, and is not known to contain an extremely hazardous substance in a concentration greater than one percent by weight.

311 / 312 Hazard Categories:

Acute Health Hazard:	No
Chronic Health Hazard:	No
Fire Hazard:	No
Pressure Release Hazard:	No
Reactivity Hazard:	No

313: This product is not known to contain any components in concentrations above OSHA *de minimus* levels that are listed as toxic in 40 CFR Part 372 pursuant to the requirements of Section 313 of SARA.

Other Federal Regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List: Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130): Not regulated.

Safe Drinking Water Act (SDWA): Not regulated.

US State Regulations

US California Proposition 65: No ingredient regulated by California Proposition 65 present.

International Inventories















































Canada WHMIS: No Data.

16. Other Information

HMIS Ratings: Health: 1 Flammability: 0 Reactivity: 0 Personal Protection: B

NFPA Ratings: Health: 1 Flammability: 0 Reactivity: 0 Special: 0

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible;
*Chronic health effect.

PERSONAL PROTECTION INDEX													
A					G	 +  + 							
B	 + 				H	 +  +  + 							
C	 +  + 				I	 +  + 							
D	 +  + 				J	 +  +  + 							
E	 +  + 				K	 +  +  + 							
F	 +  +  + 				X	Consult your supervisor or S.O.P. for "SPECIAL" handling directions							
A		n		o		p		q		r		s	
Safety Glasses		Splash Goggles		Face Shield & Eye Protection		Gloves		Boots		Synthetic Apron		Full Suit	
t		u		w		y		z		Additional Information			
Dust Respirator		Vapor Respirator		Dust & Vapor Respirator		Full Face Respirator		Airline Hood or Mask					

Issue Date: 02/11/2016

Version #: 1.0

Abbreviations:

ACGIH: American Conference of Government Industrial Hygienists

CAS: Chemical Abstract Service

CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act DOT: Department of Transportation

HMIS: Hazardous Materials Identification System

IARC: International Agency for Research on Cancer

LC: Lethal Concentration

LD: Lethal Dose

MARPOL: Marine Pollution

NFPA: National Fire Protection Association

NIOSH: National Institute for Occupational Safety and Health

NTP: National Toxicology Program

OSHA: Occupational Safety and Health Administration

PPE: Personal Protective Equipment

RCRA: Resource Conservation Recovery Act

RTK: Right to Know

SARA: Superfund Amendments and Reauthorization Act

SDS: Safety Data Sheet

STEL: Short Term Exposure Limit

TLV: Threshold Limit Value

TSCA: Toxic Substance Control Act

TWA: Time Weighted Average

VOC: Volatile Organic Compounds

WEL: Workplace Exposure Limit

Source of Information: Internal company data, vendor sds, government sources and other publically available sources.

Disclaimer: Far West Oil Company, Inc. urges each customer or recipient of this SDS to study it carefully and consult appropriate expertise as necessary to become aware of and understand the data contained in this SDS and any hazards associated with this product. The information herein is provided in good faith and believed to be accurate as of the effective date shown on page 8. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial, or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product.



SAFETY DATA SHEET

SECTION 1. Product and Business Information

Substance

Cast Steel Abrasive, shot (spherical) and grit (angular) or shot/grit blends.

Manufacturer

WINOA USA Inc.

1 Abrasive Avenue
Bedford, Virginia 24523 USA
www.wabrasives.com
Emergency phone number
(540) 586-0856

650 Rusholme Road
Welland, Ontario, L3B 5R4 Canada
www.wabrasives.com
Emergency phone number
(905) 735-4691

SECTION 2. Hazard Identification

Winoa currently knows of no risk connected to the product. Cast steel abrasive itself is chemically inert and does not present any risk to people or to the environment.

Risks are dependent upon the user's process and application.

Potential health risks are linked to the exposure to dust, produced by the fragmentation of the abrasives and particles removed from the blasted parts or during surface treatment.

Projection of abrasives exposes the operator to possible skin and eye lesions if no protection is worn.

Risk of slipping/falling due to abrasives spilled on floors.

SECTION 3. Composition of Substances

Composition: Cast Steel Abrasive Shot (SAE J827) and Grit (SAE J1993)

Chemical composition: All chemical elements in our abrasives are in alloyed form and not in a free form,

Substance	Chemical Symbol	CAS Number	% Weight
Iron	Fe	7439-89-6	> 95
Carbon	C	7440-44-0	<1.2
Manganese	Mn	7439-96-5	<1.2
Silicon	Si	7440-21-3	<1.2

SECTION 4. First-aid Measures

Lungs: If inhaled, move to fresh air, and if symptoms persist, consult a qualified medical person.

Eyes: If shot, grit or dust particles get in the eyes, do not rub, flush eyes with running water for at least 15 minutes and have any remaining particles removed from eyes by a qualified medical person.

Skin: Wash with soap and water after contact with dust. If irritation occurs consult a qualified medical person.



SAFETY DATA SHEET

SECTION 5. Fire-fighting Measures

These products are non-flammable. Select media appropriate for the surrounding materials/area. Fine metal dust that is created as a waste stream and/or contaminants that are removed during the blasting process may pose a small risk of fire or explosion.

SECTION 6. Accidental Release Measures

Steel abrasives on horizontal surfaces can create slip and fall hazards. It is recommended to keep floors, stairs and work areas clean at all times.

The material may be reused, recycled or disposed of in compliance with local, federal and state regulations.

SECTION 7. Handling and Storage

Store in a dry place. No safety risk but oxidation and aggregation may occur in the presence of moisture. Handle with care to avoid damage to packaging to avoid spillage.

SECTION 8. Exposure Control/Personal Protection

There are no specific threshold limit values (TLV) or permissible exposure limits (PEL) for cast steel abrasives. As the type of equipment used, surfaces/parts being processed and the operating conditions are the responsibility of the user, it is the user who must determine the appropriate thresholds, types of controls and the nature of the personal protection required.

Ventilation: Adequate ventilation and exhaust of the dust and fumes generated during operations should be provided to reduce the exposure levels.

Respiratory protection: NIOSH approved respirator is recommended.

Eye protection: Approved safety eye protection (ANSI-Z87) with side shields should be worn.

Other protective measures: Protective gloves, work suits and work boots.

SECTION 9. Physical and Chemical Properties

Appearance:	Spherical or angular steel particles of varied shades/hues of grey.		
Physical state:	Solid, Non-flammable and inert (non-explosive)		
Specific gravity:	> 7 g/cc	Flash Point:	Not applicable
Melting Point:	1371-1482°C	Flammable limits:	Not applicable
Boiling Point:	approx. 3000°C	Auto-ignition temp:	Not applicable
Solubility in water:	Negligible	Evaporation rate:	Not applicable
Odor:	Odorless	Vapor Pressure:	Not applicable
PH:	Not applicable	Vapor density:	Not applicable
Viscosity:	Not applicable	% Volatile:	Not applicable
Partition coefficient:	Not applicable	Decomposition temp:	Not applicable

SECTION 10. Stability and Reactivity

Under normal storage or working conditions, steel abrasives are stable and do not present any danger of hazardous reactions occurring.



SAFETY DATA SHEET

SECTION 11. Toxicological Information

No known specific indications or counter indications.

SECTION 12. Ecological Information

The product, as delivered, does not present any threat to the environment.

This product should be used under the best possible working conditions to avoid releasing it into the environment.

SECTION 13. Disposal

Disposal or recycling of this product must be done in compliance with local, federal and/or state regulations.

Operating Wastes: Each user must study the problem of waste in relation to their specific activity.

SECTION 14. Transport

There are no special conditions.

SECTION 15. Regulations

No regulations apply.

SECTION 16. Miscellaneous Information

Date of Preparation: May 4, 2015

Prepared in accordance with, OSHA CFR 1910.1200 (USA), NOM-018-STPS-2000 (Mexico), WHIMIS 2015 (Canada).

This Safety Data Sheet is available in English, French and Spanish.

The information contained in this Safety Data Sheet applies only to cast steel abrasive as delivered and its unused state. The information contained in this Safety Data Sheet is our most up to date. The information and was obtained from sources Winoa believes to be reliable however Winoa makes no guarantee, representation or warranty as to the correctness or accuracy of the information. Winoa Inc. does not assume responsibility and disclaims liability for any losses, damages or expense associated with the use of these products.

winoa
steel with you