

Material Safety Data Sheet

May be used to comply with
OSHA'S Hazard Communication Standard
29 CFR 1910.1200. Standard must be
consulted for specific requirements.

U.S. Department of Labor
Occupational Safety and Health Administration
(Non-Mandatory Form)
Form Approved
OMB No. 1218-0072

IDENTITY (As Used on Label and List)

Note: Blank spaces are not permitted

If any item is not applicable or no
information is available, the space
must be marked to indicate that

Section I

Manufacturer's Name	Emergency Telephone Number
Address (Number,Street,City, State and Zip code)	Telephone Number for Information
	Date Prepaid
	Signature of Preparer (optional)

Section II- Hazardous Ingredients / Identity Information

Hazardous Components (Specific Chemical Identity:)				
Common Name(s)	OSHA PEL	ACGIH TLV	Other limits Recommended	% (Optional)

Section III - Physical/Chemical Characteristics

Boiling Point		Specific Gravity (H2O - 1)	
Vapor Pressure (mm Hg)		Melting Point	
Vaport Density (AIR - 1)		Evaporation Rate (Butyl Acetate - 1)	
Solubility in Water			
Appearance and Odor			

Section IV - Fire and Explosion Hazard Date

Flash Point (Method used)	Flammable Limits	LEL	UEL
Extinguishing Media			
Special Fire Fighting Procedures			
Unusual Fire and Explosion Hazards			

(Reproduce locally)

OSHA 174,
Sept. 1985

Section V - Reactivity Data			
Stablility	Unstable		Conditions to Avoid
	Stable		
Incompatibility (Materials to Avoid)			
Hazardous Decomposition or Byproducts			
Hazardous	May Occur		Conditions to Avoid
	Polymerization	Will Not Occur	
Section VI - Health Hazard Data			
Route(s) of Entry: Inhalation? Skin? Ingestion?			
Health Hazards (<i>Acute and Chronic</i>)			
Carcinogenicity: NTP? IARC Monographs? OSHA Regulated?			
Signs and Symptons of Exposure			
Medical Conditions			
Generally Aggravated by Exposure			
Emergency and First Aid Procedures			
Section VII - Precautions for Safe Handling and Use			
Steps to be Taken In Case Material is Released or Spilled			
Waste Disposal Method			
Precautions to Be Taken In Handling and Storing			
Other Precautions			
Section VIII - Control Measures			
Respiratory Protection (Specify type)			
Ventilation	Local Exhaust	Special	
	Mechanical (General)	Other	
Protective Gloves		Eye Protection	
Other Protective Clothing or Equipment			
Work/Hygienic Practices			

Material Safety Data Sheet		U.S. Department of Labor	
May be used to comply with OSHA'S Hazard Communication Standard 29 CFR 1910.1200. Standard must be consulted for specific requirements.		Occupational Safety and Health Administration (Non-Mandatory Form) Form Approved OMB No. 1218-0072	
IDENTITY <i>(As Used on Label and List)</i>		<i>Note: Blank spaces are not permitted</i>	
Carbon steel : C1018		If any item is not appicable or no information is available, the space must be marked to indicate that	
Section I			
Manufacturer's Name: China Steel Corporation		Emergency Telephone Number: 886-7 8021111	
Address (Number,Street,City, State and Zip code): 1 chung kang road hsiao kang, Kaohsiung (812), Taiwan, Republic of China		Telephone Number for Information:886 7 802 1111	
		Date Prepaid	
		Signature of Preparer (optional)	
Section II- Hazardous Ingredients / Identity Information			
Hazardous Components (Specific Chemical Identity:)			
	Common Name(s)	OSHA PEL	ACGIH TLV % <i>(Optional)</i>
Chemical analysis , unit: %			
C: Carbon: 1.7 - 1.21			
MN: manganese: 7 - 9			
P: Phosphous: 3 (MAX.)			
S Sulfur: 5 (MAX)			
SI: silicon: 0.5			
TTL AL: Total Aluminum: 3.5			
Section III - Physical/Chemical Characteristics			Specific Gravity (H2O - 1)
Boiling Point: not applicable			not applicable
			Melting Point
			1000 degree c
Vapor Pressure (mm Hg) not applicable			Evaporation Rate
Vaport Density (AIR - 1): not applicable			(Butyl Acetate - not appllicable
Solubility in Water: not soluble			
Appearance and Odor: solid			
Section IV - Fire and Explosion Hazard Date		Flammable Limits	LEL
Flash Point (Method used): not acclicable		productns is not selfigniting	
Extinguishing Media: not applicable			
Special Fire Fighting Procedures			
none			
Unusual Fire and Explosion Hazards			
none			
(Reproduce locally)			

Section V - Reactivity Data			
Stablility	Unstable		Conditions to Avoid
	Stable	v	
Incompatibility (Materials to Avoid)			
Hazardous Decomposition or Byproducts			
Hazardous	May Occur		Conditions to Avoid
Polymerization	Will Not Occur	V	
Section VI - Health Hazard Data			
Route(s) of Entry: Inhalation? \ Skin? V Ingestion?			
Health Hazards (Acute and Chronic)			
Not flammable or combustible. Steel products in the solid state			
present no fire or explosion hazard and do not contribute to			
the combusition of other materials.			
Carcinogenicity: NTP? IARC Monographs? OSHA Regulated?			
Signs and Symptons of Exposure			
Medical Conditions			
Generally Aggravated by Exposure			
Emergency and First Aid Procedures			
Section VII - Precautions for Safe Handling and Use			
Steps to be Taken In Case Material is Released or Spilled			
Waste Disposal Method			
Precautions to Be Taken In Handling and Storing			
Other Precautions			
Section VIII - Control Measures			
Respiratory Protection (Specify type)			
Ventilation	Local Exhaust	Special	
	Mechanical (General)	Other	
Protective Gloves		Eye Protection	
Other Protective Clothing or Equipment			
Work/Hygienic Practices			

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IDENTITY <i>(As Used on Label and List)</i>		<i>Note: Blank spaces are not permitted</i>	
Carbon steel : C1022		If any item is not appicable or no information is available, the space must be marked to indicate that	
Section I			
Manufacturer's Name: China Steel Corporation		Emergency Telephone Number: 886-7 8021111	
Address (Number,Street,City, State and Zip code): 1 chung kang road hsiao kang, Kaohsiung (812), Taiwan, Republic of China		Telephone Number for Information:886 7 802 1111	
		Date Prepaid	
		Signature of Preparer (optional)	
Section II- Hazardous Ingredients / Identity Information			
Hazardous Components (Specific Chemical Identity:)			
Common Name(s)		OSHA PEL	ACGIH TLV % <i>(Optional)</i>
Chemical analysis , unit: %			
C: Carbon:1.8-2.3			
MN: manganese: 7 - 1.0			
P: Phosphous: 3 (MAX.)			
S Sulfur: 5 (MAX)			
Sl: silicon: 0.5			
TTL AL: Total Aluminum: 6.7			
Section III - Physical/Chemical Characteristics			
Boiling Point: not applicable		Specific Gravity (H2O - 1)	not applicable
Vapor Pressure (mm Hg) not applicable		Melting Point	1000 degree c
Vaport Density (AIR - 1): not applicable		Evaporation Rate (Butyl Acetate -	not appllicable
Solubility in Water: not soluble			
Appearance and Odor: solid			
Section IV - Fire and Explosion Hazard Date			
Flash Point (Method used): not acclicable	Flammable Limits	LEL	
Extinguishing Media: not applicable	productns is not selfigniting		
Special Fire Fighting Procedures			
none			
Unusual Fire and Explosion Hazards			
none			
(Reproduce locally)			

Section V		-		Reactivity Data			
Stability	Unstable		Conditions to Avoid				
	Stable	V					
Incompatibility (Materials to Avoid)							
Hazardous Decomposition or Byproducts							
Hazardous	May Occur		Conditions to Avoid				
Polymerization	Will Not Occur	V					
Section VI		-				Health Hazard Data	
Route(s) of Entry:		Inhalation?	V	Skin?	V	Ingestion?	
Health Hazards (<i>Acute and Chronic</i>)							
Not flammable or combustible. Steel products in the solid state							
present no fire or explosion hazard and do not contribute to							
the combustion of other materials.							
Carcinogenicity:		NTP?	IARC Monographs?	OSHA Regulated?			
Signs and Symptoms of Exposure							
Medical Conditions							
Generally Aggravated by Exposure							
Emergency and First Aid Procedures							
Section VII		-		Precautions for Safe Handling and Use			
Steps to be Taken In Case Material is Released or Spilled							
Waste Disposal Method							
Precautions to Be Taken In Handling and Storing							
Other Precautions							
Section VIII		-		Control Measures			
Respiratory Protection (Specify type)							
Ventilation	Local Exhaust			Special			
	Mechanical (General)			Other			
Protective Gloves				Eye Protection			
Other Protective Clothing or Equipment							
Work/Hygienic Practices							

Material Safety Data Sheet		U.S. Department of Labor	
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IDENTITY <i>(As Used on Label and List)</i> Stainless steel 302		<i>Note: Blank spaces are not permitted</i> If any item is not applicable or no information is available, the space must be marked to indicate that	
Section I			
Manufacturer's Name: Min Hwei Enterprise.		Emergency Telephone Number: 886-8 8669611	
Address (Number,Street,City, State and Zip code): No. 18, Yong Hsiang Road, Fong-Liao, Ping-Nan Industrial District, Ping Tung, Taiwan, Republic of China		Telephone Number for Information:886 8 8669611	
		Date Prepaid	
		Signature of Preparer (optional)	
Section II- Hazardous Ingredients / Identity Information			
Hazardous Components (Specific Chemical Identity:)			
	Common Name(s)	OSHA PEL	ACGIH TLV % <i>(Optional)</i>
Chemical analysis, unit: %		Ni: Nickel:	8.06 - 8.19
Si: silicon: 0.26 - 0.40		Cr. Chromium:	17.05 - 17.34
P: Phosphous: 0.024 -0.026		Mo.: Molybdenum	0.11 - 0.15
S Sulfur: 0.01		Cu: Copper	3.31 - 3.41
C: Carbon: 0.016 - 0.02		N: 190 ppm	
Mn: Manganess: 1.73 -1.84			
Section III - Physical/Chemical Characteristics			
Boiling Point: not applicable		Specific Gravity (H2O - 1)	
Vapor Pressure (mm Hg) not applicable		Melting Point	1200 degree c
Vaport Density (AIR - 1): not applicable		Evaporation Rate (Butyl Acetate - 1)	not appllicable
Solubility in Water: not soluble			
Appearance and Odor: solid			
Section IV - Fire and Explosion Hazard Date			
Flash Point (Method used): not acclicable	Flammable Limits	LEL	
Extinguishing Media: not applicable	productns is not selfigniting		
Special Fire Fighting Procedures			
none			
Unusual Fire and Explosion Hazards			
none			
(Reproduce locally)			

Section V - Reactivity Data			
Stability	Unstable		Conditions to Avoid
	Stable	v	
Incompatibility (Materials to Avoid)			
Hazardous Decomposition or Byproducts			
Hazardous	May Occur		Conditions to Avoid
	Polymerization	Will Not Occur	V
Section VI - Health Hazard Data			
Route(s) of Entry:		Inhalation? none	Skin? none
			Ingestion? not applicable
Health Hazards (Acute and Chronic) none			
Not flammable or combustible. Steel products in the solid state present no fire or explosion hazard and do not contribute to the combustion of other materials.			
Carcinogenicity:		NTP?	IARC Monographs?
		none	none
Signs and Symptoms of Exposure			OSHA Regulated?
		none	none
Medical Conditions			
Generally Aggravated by Exposure			
none			
Emergency and First Aid Procedures			
none			
Section VII - Precautions for Safe Handling and Use			
Steps to be Taken In Case Material is Released or Spilled			
none			
Waste Disposal Method			
Dispose of the substance in accordance with the related laws and regulations			
Precautions to Be Taken In Handling and Storing			
wash your hands after handling it.			
will react with strong acid to liberate hudrogen			
Other Precautions			
Section VIII - Control Measures			
Respiratory Protection (Specify type)			
Ventilation	Local Exhaust		Special
	none		none
	Mechanical (General)		Other
	none		none
Protective Gloves		Eye Protection	
rubber gloves		safety glasses	
Other Protective Clothing or Equipment			
install a washstand in workshop for washing hands			
Work/Hygienic Practices: general protective and hygienic measures.			

Material Safety Data Sheet		U.S. Department of Labor	
May be used to comply with OSHA'S Hazard Communication Standard 29 CFR 1910.1200. Standard must be consulted for specific requirements.		Occupational Safety and Health Administration (Non-Mandatory Form) Form Approved OMB No. 1218-0072	
IDENTITY <i>(As Used on Label and List)</i> Stainless steel 316		<i>Note: Blank spaces are not permitted</i> If any item is not applicable or no information is available, the space must be marked to indicate that	
Section I			
Manufacturer's Name: Min Hwei Enterprise.		Emergency Telephone Number: 886-8 8669611	
Address (Number,Street,City, State and Zip code): No. 18, Yong Hsiang Road, Fong-Liao, Ping-Nan Industrial District, Ping Tung, Taiwan, Republic of China		Telephone Number for Information:886 8 8669611	
		Date Prepaid	
		Signature of Preparer (optional)	
Section II- Hazardous Ingredients / Identity Information			
Hazardous Components (Specific Chemical Identity:)			
	Common Name(s)	OSHA PEL	ACGIH TLV % <i>(Optional)</i>
Chemical analysis, unit: %		Ni: Nickel:	10.76
Si: silicon: 0.25		Cr. Chromium:	17.2
P: Phosphous: 0.025		Mo.: Molybdenum	2.05
S Sulfur: 0.002		Cu: Copper	3.1
C: Carbon: 0.02		N: 150 ppm	
Mn: Manganess: 1.22			
Section III - Physical/Chemical Characteristics			
Boiling Point: not applicable		Specific Gravity (H2O - 1)	
Vapor Pressure (mm Hg) not applicable		Melting Point	1200 degree c
Vaport Density (AIR - 1): not applicable		Evaporation Rate (Butyl Acetate - 1)	not appllicable
Solubility in Water: not soluble			
Appearance and Odor: solid			
Section IV - Fire and Explosion Hazard Date			
Flash Point (Method used): not acclicable	Flammable Limits	LEL	
Extinguishing Media: not applicable	productns is not selfigniting		
Special Fire Fighting Procedures			
none			
Unusual Fire and Explosion Hazards			
none			
(Reproduce locally)			

Section V - Reactivity Data			
Stability	Unstable		Conditions to Avoid
	Stable	v	
Incompatibility (Materials to Avoid)			
Hazardous Decomposition or Byproducts			
Hazardous	May Occur		Conditions to Avoid
	Polymerization	Will Not Occur	V
Section VI - Health Hazard Data			
Route(s) of Entry:		Inhalation? none	Skin? none
			Ingestion? not applicable
Health Hazards (Acute and Chronic) none			
Not flammable or combustible. Steel products in the solid state present no fire or explosion hazard and do not contribute to the combustion of other materials.			
Carcinogenicity:		NTP?	IARC Monographs?
		none	none
Signs and Symptoms of Exposure			OSHA Regulated?
		none	none
Medical Conditions			
Generally Aggravated by Exposure			
none			
Emergency and First Aid Procedures			
none			
Section VII - Precautions for Safe Handling and Use			
Steps to be Taken In Case Material is Released or Spilled			
none			
Waste Disposal Method			
Dispose of the substance in accordance with the related laws and regulations			
Precautions to Be Taken In Handling and Storing			
wash your hands after handling it.			
will react with strong acid to liberate hudrogen			
Other Precautions			
Section VIII - Control Measures			
Respiratory Protection (Specify type)			
Ventilation	Local Exhaust		Special
	none		none
	Mechanical (General)		Other
	none		none
Protective Gloves		Eye Protection	
rubber gloves		safety glasses	
Other Protective Clothing or Equipment			
install a washstand in workshop for washing hands			
Work/Hygienic Practices: general protective and hygienic measures.			

Material Safety Data Sheet		U.S. Department of Labor	
May be used to comply with OSHA'S Hazard Communication Standard 29 CFR 1910.1200. Standard must be consulted for specific requirements.		Occupational Safety and Health Administration (Non-Mandatory Form) Form Approved OMB No. 1218-0072	
IDENTITY <i>(As Used on Label and List)</i> Clear ZINC		<i>Note: Blank spaces are not permitted</i> If any item is not appicable or no information is available, the space must be marked to indicate that	
Section I			
Manufacturer's Name: PASMINCO Metals PTY Limited		Emergency Telephone Number: 886-3 9288 0333	
Address (Number,Street,City, State and Zip code): p.o. box 1291k		Telephone Number for Information:886 3 9288 0333	
		Date Prepaid	
		Signature of Preparer (optional)	
Section II- Hazardous Ingredients / Identity Information			
Hazardous Components (Specific Chemical Identity:)			
	Common Name(s)	OSHA PEL	ACGIH TLV % <i>(Optional)</i>
Chemical analysis , unit: %			
Zinc	:99.9961	Thallium	0.0002
Cadmium	0.0007	Aluminium	0.0002
Copper	0.0001		
Iron	0.0003		
Indium	0.0004		
Lead	0.0016		
Tin	0.0004		
Section III - Physical/Chemical Characteristics			Specific Gravity (H2O - 1) 7.12
Boiling Point: 907° c			Melting Point 419.5° c
Vapor Pressure (mm Hg) not applicable			Evaporation Rate (Butyl Acetate - not appllicable
Vaport Density (AIR - 1): not applicable			
Solubility in Water: soluble			
Appearance and Odor: solid			
Section IV - Fire and Explosion Hazard Date		Flammable Limits	LEL
Flash Point (Method used): nonflammable		productns is not selfigniting	
Extinguishing Media: not applicable			
Special Fire Fighting Procedures			
none			
Unusual Fire and Explosion Hazards			
none			
<hr/> (Reproduce locally)			

Section V - Reactivity Data			
Stablility	Unstable		Conditions to Avoid : no decomposition
	Stable	v	if used according to spec.
Incompatibility (Materials to Avoid)			
Hazardous Decomposition or Byproducts			
Hazardous	May Occur		Conditions to Avoid
	Will Not Occur	V	
Polymerization			
Section VI - Health Hazard Data			
Route(s) of Entry: Inhalation? None Skin? None Ingestion? not applicable			
Health Hazards (Acute and Chronic)			
Not flammable or combustible. Steel products in the solid state			
present no fire or explosion hazard and do not contribute to			
the combusition of other materials.			
Carcinogenicity: NTP? None IARC Monographs? OSHA Regulated?			
none			
Signs and Symptons of Exposure			
none			
Medical Conditions			
Generally Aggravated by Exposure			
none			
Emergency and First Aid Procedures			
not applicable			
Section VII - Precautions for Safe Handling and Use			
Steps to be Taken In Case Material is Released or Spilled			
not applicable			
Waste Disposal Method: dispose of the substance in accordance with the related laws and regulations			
Precautions to Be Taken In Handling and Storing			
wash your hands after handling it. Avoid storing the substance in a high temperature or			
highly humid place.			
Other Precautions			
at pemperature above the melting point may liberate fumes oxides of zinc and alloying elements.			
Section VIII - Control Measures			
Respiratory Protection (Specify type)			
Ventilation	Local Exhaust	Special	
	none	none	
	Mechanical (General)	Other	
	none	none	
Protective Gloves		Eye Protection	
rubber gloves		safety glasses	
Other Protective Clothing or Equipment			
Install a washstand in workshop for washing hands.			
Work/Hygienic Practices			

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IDENTITY <i>(As Used on Label and List)</i>		<i>Note: Blank spaces are not permitted</i>	
Yellow Zinc		If any item is not appicable or no information is available, the space must be marked to indicate that	
Section I			
Manufacturer's Name: Meng Tai Trading Co., Ltd.		Emergency Telephone Number: 886-6 254-1698	
Address (Number,Street,City, State and Zip code): No. 14 Fu Chi 5th Street, Tainan City, Taiwan, R.O.C.		Telephone 886 6 2541698 Number for Information:	
		Date Prepaid	
		Signature of Preparer (optional)	
Section II- Hazardous Ingredients / Identity Information			
Hazardous Components (Specific Chemical Identity:)			
	Common Name(s)	OSHA PEL	ACGIH TLV % <i>(Optional)</i>
Chemical analysis , unit: %			
Chromium Trioxide			
Section III - Physical/Chemical Characteristics			Specific Gravity (H2O - 1) 1.06
Boiling Point: 103°c			Melting Point 196°c
Vapor Pressure (mm Hg) 18mm Hg		Evaporation Rate (Butyl Acetate - none	
Vaport Density (AIR - 1): 0.931			
Solubility in Water: soluble			
Appearance and Odor: solid or liquid,		no odor,	orange color
Section IV - Fire and Explosion Hazard Date		Flammable Limits	LEL
Flash Point (Method used): nonflammable		productns is not selfigniting	
Extinguishing Media: not applicable			
Special Fire Fighting Procedures			
none			
Unusual Fire and Explosion Hazards			
none			
(Reproduce locally)			

Section V - Reactivity Data			
Stability	Unstable		Conditions to Avoid : no decomposition
	Stable	v	if used according to spec.
Incompatibility (Materials to Avoid)			
Hazardous Decomposition or Byproducts			
Hazardous	May Occur		Conditions to Avoid
	Polymerization	Will Not Occur	V
Section VI - Health Hazard Data			
Route(s) of Entry:		Inhalation? None	Skin? YES Ingestion? YES
Health Hazards (Acute and Chronic)			
Not flammable or combustible. Steel products (screw) in the solid state			
present no fire or explosion hazard and do not contribute to			
the combustion of other materials.			
Carcinogenicity:		NTP? None	IARC Monographs? OSHA Regulated?
none			
Signs and Symptons of Exposure			
none			
Medical Conditions			
Generally Aggravated by Exposure			
none			
Emergency and First Aid Procedures			
skin contact:	Immediately flush skin with water for at 15 minute. If no comfort receive medical		
	treament.		
Ingestion	Use water mouth wash clean, give patient drink some water.		
	if patient have puke condition, immediately drink some water . If no comfort		
	receive medical treatment.		
Section VII - Precautions for Safe Handling and Use			
Steps to be Taken In Case Material is Released or Spilled			
centralize disposal			
Waste Disposal Method: dispose of the substance in accordance with the related laws and regulations			
Precautions to Be Taken In Handling and Storing			
wash your hands after handling it. Avoid storing the substance in a high temperature or			
highly humid place. Don't put screws in your mouth.			
Other Precautions			
at pemperature above the melting point may liberate fumes oxides of zinc and alloying elements.			
Section VIII - Control Measures			
Respiratory Protection (Specify type)			
Ventilation	Local Exhaust	Special	
	none	none	
	Mechanical (General)	Other	
	none	none	
Protective Gloves		Eye Protection	
rubber gloves		safety glasses	
Other Protective Clothing or Equipment			
Install a washstand in workshop for washing hands.			
Work/Hygienic Practices			

Material Safety Data Sheet		U.S. Department of Labor	
May be used to comply with OSHA'S Hazard Communication Standard 29 CFR 1910.1200. Standard must be consulted for specific requirements.		Occupational Safety and Health Administration (Non-Mandatory Form) Form Approved OMB No. 1218-0072	
IDENTITY <i>(As Used on Label and List)</i>		<i>Note: Blank spaces are not permitted</i>	
Carbon steel		If any item is not applicable or no information is available, the space must be marked to indicate that	
Section I			
Manufacturer's Name: China Steel Corporation		Emergency Telephone Number: 886-7 8021111	
Address (Number,Street,City, State and Zip code): 1 chung kang road hsiao kang, Kaohsiung (812), Taiwan, Republic of China		Telephone Number for Information:886 7 802 1111	
		Date Prepaid	
		Signature of Preparer (optional)	
Section II- Hazardous Ingredients / Identity Information			
Hazardous Components (Specific Chemical Identity:)			
Common Name(s)		OSHA PEL	ACGIH TLV % <i>(Optional)</i>
Chemical analysis , unit: %			
C: Carbon: 0.17 - 0.23			
MN: manganese: 0.7 - 0.9			
P: Phosphous: 0.03 (MAX.)			
S Sulfur: 0.05 (MAX)			
SI: silicon: 0.05			
TTL AL: Total Aluminum: 0.035 - 0.067			
BASS METAL			
IRON: BALANCE			
Section III - Physical/Chemical Characteristics			
Boiling Point: not applicable		Specific Gravity (H2O - 1)	7.85
Vapor Pressure (mm Hg) not applicable		Melting Point	1000 degree c
Vaport Density (AIR - 1): not applicable		Evaporation Rate (Butyl Acetate - 1)	not appllicable
Solubility in Water: not soluble			
Appearance and Odor: solid , no Odor			
Section IV - Fire and Explosion Hazard Date			
Flash Point (Method used): not acclicable	Flammable Limits	LEL	
Extinguishing Media: not applicable	productns is not selfigniting		
Special Fire Fighting Procedures			
none			
Unusual Fire and Explosion Hazards			
none			
(Reproduce locally)			

Section V - Reactivity Data			
Stability	Unstable		Conditions to Avoid
	Stable	v	
Incompatibility (Materials to Avoid)			
Hazardous Decomposition or Byproducts			
Hazardous	May Occur		Conditions to Avoid
	Polymerization	Will Not Occur	V
Section VI - Health Hazard Data			
Route(s) of Entry:		Inhalation? none	Skin? none
			Ingestion? not applicable
Health Hazards (Acute and Chronic) none			
Not flammable or combustible. Steel products in the solid state present no fire or explosion hazard and do not contribute to the combustion of other materials.			
Carcinogenicity:		NTP?	IARC Monographs?
		none	none
Signs and Symptoms of Exposure			
none			
Medical Conditions			
Generally Aggravated by Exposure			
none			
Emergency and First Aid Procedures			
none			
Section VII - Precautions for Safe Handling and Use			
Steps to be Taken In Case Material is Released or Spilled			
none			
Waste Disposal Method			
Dispose of the substance in accordance with the related laws and regulations			
Precautions to Be Taken In Handling and Storing			
wash your hands after handling it.			
will react with strong acid to liberate hudrogen			
Other Precautions			
Section VIII - Control Measures			
Respiratory Protection (Specify type)			
Ventilation	Local Exhaust		Special
	none		none
	Mechanical (General)		Other
	none		none
Protective Gloves		Eye Protection	
rubber gloves		safety glasses	
Other Protective Clothing or Equipment			
install a washstand in workshop for washing hands			
Work/Hygienic Practices: general protective and hygienic measures.			

Material Safety Data Sheet		U.S. Department of Labor	
May be used to comply with OSHA'S Hazard Communication Standard 29 CFR 1910.1200. Standard must be consulted for specific requirements.		Occupational Safety and Health Administration (Non-Mandatory Form) Form Approved OMB No. 1218-0072	
IDENTITY (As Used on Label and List)		Note: Blank spaces are not permitted	
PHOSPHATE		If any item is not appicable or no information is available, the space must be marked to indicate that	
Section I			
Manufacturer's Name: Arphar industrial Co., Ltd.		Emergency Telephone Number: 886-7-6978846	
Address (Number,Street,City, State and Zip code): No. 475 Da Tong Road, Lu-Chu, Kaohsiung Hsien, Taiwan, R.O.C.		Telephone 886-7-6978846 Number for Information:	
		Date Prepaid	
		Signature of Preparer (optional)	
Section II- Hazardous Ingredients / Identity Information			
Hazardous Components (Specific Chemical Identity:)			
Common Name(s)		OSHA PEL	ACGIH TLV % (Optional)
Chemical analysis , unit: %			
Phosphate Acid : 35			
Zinc Oxide: 15			
Water: 29			
Nitric Acid 20			
Other : 1			
Section III - Physical/Chemical Characteristics		Specific Gravity (H20 - 1) 1.58+/_ 0.02g/cm3	
Boiling Point: Not determined		Melting Point Not applicable	
Vapor Pressure (mm Hg) 25°c =1.0atm		Evaporation Rate	
Vaport Density (AIR - 1): 12 s		(Butyl Acetate - 1-3%	
Solubility in Water: soluble			
Appearance and Odor: solid , no Odor			
Section IV - Fire and Explosion Hazard Date		Flammable Limits	LEL None
Flash Point (Method used): nonflammable		product is not selfigniting	
Extinguishing Media: not applicable			
Special Fire Fighting Procedures			
none			
Unusual Fire and Explosion Hazards			
none			
(Reproduce locally)			

Section V - Reactivity Data			
Stability	Unstable		Conditions to Avoid : no decomposition
	Stable	v	if used according to spec.
Incompatibility (Materials to Avoid)			
Hazardous Decomposition or Byproducts			
Hazardous	May Occur		Conditions to Avoid
	Will Not Occur	V	
Polymerization			
Section VI - Health Hazard Data			
Route(s) of Entry: Inhalation? None Skin? None Ingestion? not applicable			
Health Hazards (Acute and Chronic)			
Not flammable or combustible. Steel products in the solid state			
present no fire or explosion hazard and do not contribute to			
the combustion of other materials.			
Carcinogenicity: NTP? None IARC Monographs? OSHA Regulated?			
none			
Signs and Symptoms of Exposure			
none			
Medical Conditions			
Generally Aggravated by Exposure			
none			
Emergency and First Aid Procedures			
not applicable			
Section VII - Precautions for Safe Handling and Use			
Steps to be Taken In Case Material is Released or Spilled			
not applicable			
Waste Disposal Method: dispose of the substance in accordance with the related laws and regulations			
Precautions to Be Taken In Handling and Storing			
wash your hands after handling it. Avoid storing the substance in a high temperature or			
highly humid place. Don't put screws in your mouth.			
Other Precautions			
at pemperature above the melting point may liberate fumes oxides of zinc and alloying elements.			
Section VIII - Control Measures			
Respiratory Protection (Specify type)			
Ventilation	Local Exhaust	Special	
	none	none	
	Mechanical (General)	Other	
	none	none	
Protective Gloves		Eye Protection	
rubber gloves		safety glasses	
Other Protective Clothing or Equipment			
Install a washstand in workshop for washing hands.			
Work/Hygienic Practices			

Section V - Reactivity Data			
Stability	Unstable		Conditions to Avoid : no decomposition
	Stable	v	if used according to spec.
Incompatibility (Materials to Avoid)			
Hazardous Decomposition or Byproducts			
Hazardous	May Occur		Conditions to Avoid
	Polymerization	Will Not Occur	V
Section VI - Health Hazard Data			
Route(s) of Entry:		Inhalation? None	Skin? YES Ingestion? YES
Health Hazards (Acute and Chronic)			
Not flammable or combustible. Steel products (screw) in the solid state			
present no fire or explosion hazard and do not contribute to			
the combustion of other materials.			
Carcinogenicity:		NTP? None	IARC Monographs? OSHA Regulated?
none			
Signs and Symptons of Exposure			
none			
Medical Conditions			
Generally Aggravated by Exposure			
none			
Emergency and First Aid Procedures			
skin contact:	Immediately flush skin with water for at 15 minute. If no comfort receive medical		
	treament.		
Ingestion	Do not forced spit, use water mouth wash clean, give patient drink some water.		
	if patient have puke condition, immediately drink some water . If no comfort		
	receive medical treatment.		
Section VII - Precautions for Safe Handling and Use			
Steps to be Taken In Case Material is Released or Spilled			
centralize disposal			
Waste Disposal Method: dispose of the substance in accordance with the related laws and regulations			
Precautions to Be Taken In Handling and Storing			
wash your hands after handling it. Avoid storing the substance in a high temperature or			
highly humid place. Don't put screws in your mouth.			
Other Precautions			
at pemperature above the melting point may liberate fumes oxides of zinc and alloying elements.			
Section VIII - Control Measures			
Respiratory Protection (Specify type)			
Ventilation	Local Exhaust	Special	
	none	none	
	Mechanical (General)	Other	
	none	none	
Protective Gloves		Eye Protection	
rubber gloves		safety glasses	
Other Protective Clothing or Equipment			
Install a washstand in workshop for washing hands.			
Work/Hygienic Practices			

Material Safety Data Sheet		U.S. Department of Labor	
May be used to comply with OSHA'S Hazard Communication Standard 29 CFR 1910.1200. Standard must be consulted for specific requirements.		Occupational Safety and Health Administration (Non-Mandatory Form) Form Approved OMB No. 1218-0072	
IDENTITY <i>(As Used on Label and List)</i>		<i>Note: Blank spaces are not permitted</i>	
RUSPERT COATING		If any item is not applicable or no information is available, the space must be marked to indicate that	
Section I			
Manufacturer's Name: Taiwan Inn Sinn Ruspert co., Ltd. (Nihon Ruspert co., Ltd.)		Emergency Telephone Number: 886-7698 6973115	
Address (Number,Street,City, State and Zip code): 300-1, Fu Shi Rd., Lu Chu Hsiang Kaohsiung Hsien, Taiwan, R.O.C.		Telephone 886-7-6973115 Number for Taiwan Information: Japan-----> 81-724328711	
		Date Prepaid	
		Signature of Preparer (optional)	
Section II- Hazardous Ingredients / Identity Information			
Hazardous Components (Specific Chemical Identity:)			
	Common Name(s)	OSHA PEL	ACGIH TLV % <i>(Optional)</i>
Chemical analysis , unit: %			
RESIN (POLYESTER, MELAMINE, EPOXY, CILICONE)			
FILLER		ETHER SOLVENT	
PIGMENT		ETHER SOLVENT	
ALUMINUM POWER		ALCOHLIC SOLVENT	
XYLENE		ADDITIVE	
BUTYL CELLOSOLVE			
BUTANOL			
AROMATIC HYDROCARBON SOLVENT			
Section III - Physical/Chemical Characteristics		Specific Gravity (H2O - 1) 1.56+_0.01	
Boiling Point: 137 - 140°C		Melting Point 1000 degree c	
Vapor Pressure (mm Hg) 6-6.5 @20 C		Evaporation Rate 3.7	
Vaport Density (AIR - 1): 0.86			
Medicament no volatilise.			
Solubility in Water: dissolution 100% 130 mg/l			
Appearance and Odor:W/O color, liquid, no		Odor	
Section IV - Fire and Explosion Hazard Date		Flammable Limits	LEL NONE
Flash Point (Method used): nonflammable		product is not selfigniting	
Extinguishing Media: not applicable			
Special Fire Fighting Procedures			
none			
Unusual Fire and Explosion Hazards			
none			
(Reproduce locally)			

Section V - Reactivity Data			
Stability	Unstable		Conditions to Avoid : no decomposition
	Stable	v	if used according to spec.
Incompatibility (Materials to Avoid)			
Hazardous Decomposition or Byproducts			
Hazardous	May Occur		Conditions to Avoid
	Polymerization	Will Not Occur	V
Section VI - Health Hazard Data			
Route(s) of Entry:		Inhalation? None	Skin? YES Ingestion? YES
Health Hazards (Acute and Chronic)			
Not flammable or combustible. Steel products (screw) in the solid state			
present no fire or explosion hazard and do not contribute to			
the combustion of other materials.			
Carcinogenicity:		NTP? None	IARC Monographs? OSHA Regulated?
none			
Signs and Symptons of Exposure			
none			
Medical Conditions			
Generally Aggravated by Exposure			
none			
Emergency and First Aid Procedures			
skin contact:	Immediately flush skin with water for at 15 minute. If no comfort receive medical		
	treament.		
Ingestion	Do not forced spit, use water mouth wash clean, give patient drink some water.		
	if patient have puke condition, immediately drink some water . If no comfort		
	receive medical treatment.		
Section VII - Precautions for Safe Handling and Use			
Steps to be Taken In Case Material is Released or Spilled			
centralize disposal			
Waste Disposal Method: dispose of the substance in accordance with the related laws and regulations			
Precautions to Be Taken In Handling and Storing			
wash your hands after handling it. Avoid storing the substance in a high temperature or			
highly humid place. Don't put screws in your mouth.			
Other Precautions			
at temperature above the melting point may liberate fumes oxides of zinc and alloying elements.			
Section VIII - Control Measures			
Respiratory Protection (Specify type)			
Ventilation	Local Exhaust	Special	
	none	none	
	Mechanical (General)	Other	
	none	none	
Protective Gloves		Eye Protection	
rubber gloves		safety glasses	
Other Protective Clothing or Equipment			
Install a washstand in workshop for washing hands.			
Work/Hygienic Practices			

Material Safety Data Sheet		U.S. Department of Labor	
May be used to comply with		Occupational Safety and Health Administration	
OSHA'S Hazard Communication Standard		(Non-Mandatory Form)	
29 CFR 1910.1200. Standard must be		Form Approved	
consulted for specific requirements.		OMB No. 1218-0072	
IDENTITY <i>(As Used on Label and List)</i>		<i>Note: Blank spaces are not permitted</i>	
DACRO COATING		If any item is not applicable or no information is available, the space must be marked to indicate that	
Section I			
Manufacturer's Name: NIPPON DACRO SHAMROCK Co., Ltd.		Emergency Telephone Number: (USA) 216-292-950	
Address (Number,Street,City, State and Zip code): 296, Shimokurata-cho, Totsuka-Ku, Yokohama City, Kanagawa pref. 244-0815, Japan		Telephone 886-7-6973115 Number for Taiwan Information: Japan-----> 81-458643551	
		Date Prepaid	
		Signature of Preparer (optional)	
Section II- Hazardous Ingredients / Identity Information			
Hazardous Components (Specific Chemical Identity:)			
Common Name(s)		OSHA PEL	ACGIH TLV % (Optional)
Chemical analysis , unit: %		45 - 65	
METELLIC ZINC :PEL=5mg/m² 8 hr TWA		(total pigment)	
(zinc oxide fume)			
TLV=5mg/m² 8 hr TWA		(zinc oxide, resprable dust)	
TLV=5mg/m² 8 hr TWA		(zinc oxide fume)	
METALLIC ALUMINUN:			
PEL=None established			
TLL=None established			
Ce-Solvent			
PEL=None established		30-40	
TLV=None established			
Surfactants			
PEL=None established		<7	
TLV=None established			
Section III - Physical/Chemical Characteristics		Specific Gravity (Water =1) 2.1 20° C	
Boiling Point: NA		Melting Point NA	
Vapor Pressure (mm Hg) <2mm Hg		Evaporation Rate Slower than buAc	
Vaport Density (AIR - 1): Heavier than air		(BuAc =1)	
Medicament no volatile.			
Solubility in Water: % by weight 35-50			
Appearance and Odor:Viseous metallic grey			
paste with slight, sweet alcoholic odor			
Section IV - Fire and Explosion Hazard Date		Flammable Limits	Lower: 0.7 upper:8.5
Flash Point (Method used):115° F(closed cup)		product is not selfigniting	
Extinguishing Media: Smother with dry sand, dry ground limestone, or dry powder-type agents specially designed for metal powder fires. DO NOT use carbon tetrachloride, CO ₂ extinguishers, or water.			
Special Fire Fighting Procedures			
cover container. Exclude air and or water. Pressure-demand, self-containedir breathing apparatus should be provided for fire fighters in buildings or confined areas where this product is stored.			
Unusual Fire and Explosion Hazards			
May produce hydrogen gas on contact with acide, alkali hydroxide, certain halogenated chemicals and water. Under certain conditions, moisture will react with zinc, e.g. water slowly dripping into open drum. (This will allow hydrogen to be formed.) Hydrogen gas is extremely flammable, and may reach an explosive concentration when mixed with air in a confined space.			

Section V - Reactivity Data			
Stablility	Unstable		Conditions to Avoid :
	Stable	v	if used according to spec.
Medical conditions Generally Aggravated by Exposure Conditions which have the same symptems .			
or effects as stated below.			
Mdeical Limitations : Individuals with a history of pulmenary or cardiac disoase should not be			
exphsed to this product when heated at high temperatures.			
Incompatibility (Materials to Avoid)			
Hazardous Decomposition or Byproducts			
Hazardous	May Occur		Conditions to Avoid
Polymerization	Will Not Occur	V	
Section VI - Health Hazard Data			
Route(s) of Entry: Inhalation? Yes Skin? YES Ingestion? YES			
Health Hazards (Acute and Chronic)			
Not flammable or combustibile. Steel products (screw) in the solid state			
present. do not contribute to			
the combusition of other materials.			
Carcinogenicity: NTP? None IARC Monographs? OSHA Regulated?			
Signs and Symptons of Exposure			
Medical Conditions			
Generally Aggravated by Exposure			
Emergency and First Aid Procedures			
Eyes	Object is to flush material out immediately then seek medical attention. immediately flush eyes with large amounts of water for at least 15 minutes holding lids . lids apart to ensure flushing of the entire surface. Washing eyes within one minute is essential to achieve maximum effectivenass. Seek medical attention immediately.		
skin contact:	Wash with plenty of water. Remove soiled clothing and featwear.Wash clothing .		
	before reuse. Seek mdeical attention if symptooms are present.		
inhalation	If symptoms are present, get person out or atra to fresh air.		
	SEEK MEDICAL ATTENTION.		
Ingestion	Never give anythingby mouth to an unconselous person. If awallowed, DO		
	Not Induce Vomiting. Give large quantities of water. If avaliables, give		
	several glasses of milk . If vomiting occurs spontaneously, Keep airway clear.		
	SEEK MEDICAL ATTENTION IMMEDIATELY..		
Section VII - Precautions for Safe Handling and Use			
Steps to be Taken In Case Material is Released or Spilled			
Small spille can b centralize disposal			
contained and removed by vacuum truck, Residual can be neutralized with dilute acid.			
(or vinegar) and rinsed with water to prevent slippery areas.			
Waste Disposal Method: Clean-up action should be carefully planned and executed. Shipment,			
and / or disposal of waste materials are regulated and action to handle spilled or released			
materials must meet the applicable rules. If any question exists.the appropriate agencies			
should be contacted to assure proper action being taken. To aboid pressure build-up due to			
slow evelution of hydrogen gas, strage of waste should be in vented containers.			
Precautions to Be Taken In Handling and Storing			
wash your hands after handling it. Avoid storing the substance in a high temperature or			
highly humid place. Don't put screws in your mouth.			
Other Precautions			
at temperature above the melting point may liberate fumes oxides of zinc and alloying elements.			
Section VIII - Control Measures			
Respiratory Protection (Specify type)			
Ventilation	Local Exhaust	Special	
	where engineering controls are not feasible, use adequate local exhaust		
	ventilation, For high temperature cutting or welding where more hazardous		
	materilals my be generated, use local exhaust ventilation.		
	Mechanical (General)	Other	
Protective Gloves		Eye Protection	
rubber gloves		safety glasses	
Other Protective Clothing or Equipment			
Install a washstand in workshop for washing hands.			
Work/Hygienic Practices			

Material Safety Data Sheet		U.S. Department of Labor	
May be used to comply with OSHA'S Hazard Communication Standard 29 CFR 1910.1200. Standard must be consulted for specific requirements.		Occupational Safety and Health Administration (Non-Mandatory Form) Form Approved OMB No. 1218-0072	
IDENTITY (As Used on Label and List)		Note: Blank spaces are not permitted	
Wax gleitmo 615		If any item is not applicable or no information is available, the space must be marked to indicate that	
Section I			
Manufacturer's Name: Fuchs Lubritech Gmbh.		+49 Emergency Telepho(0)6374/924-5	
Address (Number,Street,City, State and Zip code): Hans -Reiner-Strais 7-13, D-67685 Weilerbach postbox 51, D-67683 Weilerbach		Telephone +49 Number for (0)6374/924-5 Information:	
		Date Prepaid	
		Signature of Preparer (optional)	
Section II- Hazardous Ingredients / Identity Information			
Hazardous Components (Specific Chemical Identity:)			
Common Name(s)		OSHA PEL	ACGIH TLV % (Optional)
Chemical analysis , unit: %			
Cmchemical characterization:			
aqueous emulsion with additives		ca.10	
Classification: xi.f R11-35-67			
Section III - Physical/Chemical Characteristics			
		Specific Gravity (H2O - 1)	none
Boiling Point: ca. 100°C		Melting Point	
			none
Vapor Pressure (mm Hg) not determined		Evaporation Rate	none
Vaport Density (AIR - 1): ca. 1g/cm³ 20°C			
Medicament no volatilise.			
Solubility in Water: dissolution			
Appearance and Odor: liquid, white, hardly		noticeable	
Section IV - Fire and Explosion Hazard Date		Flammable Limits	LEL NONE
Flash Point (Method used): nonflammable		product is not selfigniting	
Extinguishing Media: not applicable			
Special Fire Fighting Procedures			
Suitable extingulshing material:			
Product does not burn, fire-extinguishing			
activitys according to surrounding.			
Unusual Fire and Explosion Hazards			
Fire gas of organic material has to be classed in variably as respiratory poison in fires, hazardous Carbon dioxide (CO2)			
cracking products of organic compounds			
Sulfur oxide			
(Reproduce locally)			

Section V - Reactivity Data			
Stablility	Unstable		Conditions to Avoid : No hazardous
			reactions known.
	Stable	v	if used according to spec.
Incompatibility (Materials to Avoid)			
Hazardous Decomposition or Byproducts			
Hazardous	May Occur		Conditions to Avoid
Polymerization	Will Not Occur	V	none at appropriate handling and storage
Section VI - Health Hazard Data			
Route(s) of Entry: Inhalation? None Skin? Yes Ingestion? YES			
irritability eye: may have irritating effect.			
Health Hazards (Acute and Chronic)			
Not flammable or combustible. Steel products (screw) in the solid state			
present no fire or explosion hazard and do not contribute to			
the combusition of other materials.			
Carcinogenicity: NTP? None IARC Monographs? OSHA Regulated?			
none			
Signs and Symptons of Exposure			
none			
Medical Conditions			
Generally Aggravated by Exposure			
none			
Emergency and First Aid Procedures			
skin contact: in case of contact with skin wash off with soap and water.			
Ingestion do not induce vomitting. Refer to medical treament.			
Inhalation: I case of inhalation, Ensure of fresh air.			
In the event of symptoms refer for medical treatment.			
Section VII - Precautions for Safe Handling and Use			
Steps to be Taken In Case Material is Released or Spilled			
Personal precautions: Avoid skin contact to draining liquid, use personal protective clothing.			
High risk of slipping due to leakage/spillage of product.			
Waste Disposal Method: dispose of the substance in accordance with the related laws and regulations			
Precautions to Be Taken In Handling and Storing			
Advice on safe handling: No special measures necessary if used correctly.			
Advice on protection against fire and explosion: Pay attention to general rules of intermal fire prevention.			
Advice on storage compatibility: Do not store together with food. wash your hands after handling it. Avoid storing the substance in a high temperature or			
highly humid place. Don't put screws in your mouth.			
Other Precautions			
at temperature above the melting point may liberate fumes oxides of zinc and alloying elements.			
Section VIII - Control Measures			
Respiratory Protection (Specify type)			
Ventilation	Local Exhaust	Special	
	none	none	
	Mechanical (General)	Other	
	none	none	
Protective Gloves		Eye Protection	
rubber gloves		safety glasses	
Other Protective Clothing or Equipment			
Install a washstand in workshop for washing hands.			
Work/Hygienic Practices			