CHEMICAL PRODUCT SAFETY DATA SHEET

Prepared in accordance with GB/T 16483 and GB/T 17519.

Product name: Back Up Pads

Issue date: 27-August-2018
Revision date: -
Version #: 01

SECTION 1 Chemical product and company identification

Product name	**Back Up Pads**
Manufacturer/Supplier	Ferro Industries, Inc. 35200 Union Lake Road Harrison Township, MI 48045 +1 586-792-6001 (7:00 A.M. - 4:30 P.M. EST)
Contact person	Product Responsibility Manager
E-mail	ferroindustries@gmail.com
Emergency telephone number	For Chemical Emergency ONLY, call: +1 800-832-4357

Recommended use and Limitations on use

Recommended use	Sanding, polishing various surfaces.
Issue date	27-August-2018
Revision date	-
Supersedes date	-

SECTION 2 Hazards identification

Emergency overview

Harmful if inhaled. May cause damage to organs through prolonged or repeated exposure. Suspected of causing cancer. Causes serious eye irritation. Causes skin irritation. May cause irritation to the respiratory system. Exposure to powder or dusts may be irritating to eyes, nose and throat. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

Hazard categories

Physical hazards	Not classified.	
Health hazards	Acute toxicity, inhalation	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2
	Sensitization, respiratory	Category 1
	Sensitization, skin	Category 1
	Carcinogenicity	Category 2
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, repeated exposure	Category 2 (Inhalation, Kidneys)
Environmental hazards	Not classified.	

Label elements

Pictograms

Signal word

Danger

Hazard statement

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.

H373	May cause damage to organs (Inhalation, Kidneys) through prolonged or repeated exposure.

Precautionary statement

Prevention

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust.
P264	Wash thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	Wear respiratory protection.

Response

P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P312	Call a POISON CENTER/doctor if you feel unwell.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P337 + P313	If eye irritation persists: Get medical advice/attention.
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
P362 + P364	Take off contaminated clothing and wash it before reuse.

Storage

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

Disposal

P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

Physical and chemical hazards The product is stable and non-reactive under normal conditions of use, storage and transport. No unusual fire or explosion hazards noted.

Health hazards Harmful if inhaled. Dust may irritate respiratory system. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Causes skin irritation. Dust or powder may irritate the skin. May cause an allergic skin reaction. Expected to be a low ingestion hazard. Causes serious eye irritation. Dust may irritate the eyes.

Environmental hazards The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Supplemental information None.

SECTION 3 Composition/information on ingredients

Substance/mixture Mixture

Chemical name	Concentration (%)	CAS Number
Diphenylmethane-4-4'-diisocyanante (MDI)	>=25.0 - < 50.0	101-68-8
Ethylene glycol	>= 3.0 - < 7.0	107-21-1
Dipropylene Glycol	>=1.0 - < 3.0	25265-71-8
Methylene bis(isocyanatobenzene) homopolymer	>=1.0 - < 3.0	39310-05-9
Methylenediphenyl diisocyanate (MDI)	>=1.0 - < 3.0	26447-40-5
Triethyl phosphate	>=1.0 - < 3.0	78-40-0
Triethylendiamine	>= 0.3 - < 1.0	280-57-9
Other components below reportable levels	41.1	

SECTION 4 First aid measures

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If experiencing respiratory symptoms: Call a poison center or doctor/physician.

Skin contact Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.

Eye contact	Do not rub eyes. Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms and health effects	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Dusts may irritate the respiratory tract, skin and eyes. Coughing. Difficulty in breathing. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash. Prolonged exposure may cause chronic effects.
Personal protection for first-aid responders	IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.
Notes to physician	Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

SECTION 5 Fire-fighting measures

Extinguishing media	Powder. Carbon dioxide (CO2).
Extinguishing media to avoid	Water.
Specific hazards	During fire, gases hazardous to health may be formed.
Special fire fighting procedures	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots. Move containers from fire area if you can do so without risk.
Protection of fire-fighters	Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
General fire hazards	No unusual fire or explosion hazards noted.

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe dust. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
For emergency responders	Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.
Clean-up methods and materials and containment measures	Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Minimize dust generation and accumulation. Collect dust using a vacuum cleaner equipped with HEPA filter. Stop the flow of material, if this is without risk. Large Spills: Wet down with water and dike for later disposal. Absorb in vermiculite, dry sand or earth and place into containers. Shovel the material into waste container. Following product recovery, flush area with water. Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS.
Prevention of secondary hazards	None known.

SECTION 7 Handling and storage

Handling	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Minimize dust generation and accumulation. Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Should be handled in closed systems, if possible. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
Storage	Store locked up. Store in tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

SECTION 8 Exposure controls/personal protection

Exposure limits

China

Components	Type	Value
Diphenylmethane-4-4'-diisocyanante (MDI) (CAS 101-68-8)	PC-STEL	0.1 mg/m3
	PC-TWA	0.05 mg/m3
Ethylene glycol (CAS 107-21-1)	PC-STEL	40 mg/m3
	PC-TWA	20 mg/m3
Methylenediphenyl diisocyanate (MDI) (CAS 26447-40-5)	PC-STEL	0.1 mg/m3
	PC-TWA	0.05 mg/m3

Biological limit values No biological exposure limits noted for the ingredient(s).

Monitoring methods Follow standard monitoring procedures.

Engineering measures Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

If engineering measures are not sufficient to maintain concentrations of dust particulates below the Occupational Exposure Limit (OEL), suitable respiratory protection must be worn. If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits. Provide eyewash station and safety shower.

Personal protective equipment

Respiratory protection Chemical respirator with organic vapor cartridge, full facepiece, dust and mist filter.

Hand protection Wear appropriate chemical resistant gloves.

Eye protection Wear safety glasses with side shields (or goggles).

Skin and body protection Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Hygiene measures Observe any medical surveillance requirements. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

SECTION 9 Physical and chemical properties

Appearance

Physical state Solid.

Form Solid.

Color Yellow.

Odor Not available.

pH Not available.

Melting point/freezing point Not available.

Boiling point, initial boiling point, and boiling range Not available.

Flash point Not available.

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure Not available.

Vapor density Not available.

Relative density 25 Durometer/Shore A

Density Not available.

Solubility(ies)

Solubility (water) Insoluble.

Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Flammability (solid, gas)	Not available.
Other data	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.

SECTION 10 Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Contact with incompatible materials. Moisture.
Incompatible materials	Acids. Alcohols. Alkalines. Amines. Strong bases. Strong oxidizing agents. Substances that react with isocyanates.
Hazardous decomposition products	Carbon oxides. Hydrogen cyanide. Isocyanates. Nitrogen oxides.

SECTION 11 Toxicological information

Acute toxicity Harmful if inhaled.

Components	Species	Test Results
Diphenylmethane-4-4'-diisocyanante (MDI) (CAS 101-68-8)		
Acute		
Oral		
LD50	Mouse	2200 mg/kg
Ethylene glycol (CAS 107-21-1)		
Acute		
Dermal		
LD50	Rabbit	9530 mg/kg
Triethylendiamine (CAS 280-57-9)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Oral		
LD50	Rat	700 mg/kg

Routes of exposure	Inhalation. Skin contact. Eye contact.
Symptoms	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Dusts may irritate the respiratory tract, skin and eyes. Coughing. Difficulty in breathing. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory or skin sensitization	
Respiratory sensitization	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitizer	May cause an allergic skin reaction.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Suspected of causing cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

Diphenylmethane-4-4'-diisocyanante (MDI) (CAS 101-68-8)	3 Not classifiable as to carcinogenicity to humans.
Methylenediphenyl diisocyanate (MDI) (CAS 26447-40-5)	3 Not classifiable as to carcinogenicity to humans.

Toxic to reproduction This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity following single exposure	May cause respiratory irritation.
Specific target organ toxicity following repeated exposure	May cause damage to organs (Inhalation, Kidneys) through prolonged or repeated exposure.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	May cause damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful.

SECTION 12 Ecological information

Ecotoxicological data

Components		Species	Test Results
Ethylene glycol (CAS 107-21-1)			
Aquatic			
Acute			
Crustacea	EC50	Ceriodaphnia dubia	10000 mg/l, 48 Hours
Fish	LC50	Oncorhynchus mykiss	24591 mg/l, 96 Hours
Chronic			
Crustacea	NOEC	Ceriodaphnia dubia	3469 mg/l, 7 days
Fish	NOEC	Oncorhynchus mykiss	14692 mg/l, 12 days
Triethylendiamine (CAS 280-57-9)			
Acute			
	EC50	Selenastrum capricornutum (new Pseudokirchneriella subcapita	110 mg/l, 72 hours
Aquatic			
Acute			
Crustacea	EC50	Daphnia magna	> 100 mg/l, 48 hours
Fish	LC50	Carp (Cyprinus carpio)	> 100 mg/l, 96 hours

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Persistence and degradability	No data is available on the degradability of any ingredients in the mixture.

Bioaccumulation

Bioaccumulative potential

Octanol/water partition coefficient log Kow

Ethylene glycol (CAS 107-21-1)	-1.36
Triethyl phosphate (CAS 78-40-0)	0.8

Mobility in soil	The product is insoluble in water.
Other hazardous effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13 Disposal considerations

Residual waste	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.
Local disposal regulations	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14 Transport information

CNDG

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

SECTION 15 Regulatory information

Regulations on the Control over Safety of Dangerous Chemicals

Catalog of Hazardous Chemicals

Benzene, 1,1'-methylenebis[isocyanato- (CAS 26447-40-5)	Benzene, 1,1'-methylenebis[isocyanato-
DIPHENYL METHANE-4,4'-DIISOCYANATE (CAS 101-68-8)	DIPHENYL METHANE-4,4'-DIISOCYANATE

Measures for the Environmental Management Registration of Hazardous Chemicals (for Trial Implementation)

Not regulated.

Inventory of Existing Chemical Substances in China

Country(s) or region	Inventory name	On inventory (yes/no)*
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Other regulations This safety data sheet conforms to the following laws, regulations and standards:
Regulations on the Control over Safety of Dangerous Chemicals
Regulations on Labor Protection in Workplaces Where Toxic Products Are Used
Measures for the Safe Use of Chemicals in Workplaces
Safety Data Sheet for Chemical Products - Content and Order of Sections (GB/T 16483-2008)
General Rules for Preparation of Precautionary Labels for Chemicals (GB15258-2009)
Packing Symbol of Dangerous Goods(GB190-2009)
Packing - Pictorial Marking for Handling of Goods (GB/T191-2009)

China. National Catalogue of Hazardous Wastes

Ethylene glycol (CAS 107-21-1)

International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Montreal Protocol

Not applicable.

Kyoto protocol

Not applicable.

Basel Convention

Not applicable.

SECTION 16 Other information

References EPA: AQUIRE database
GB6944-2012: Classification and Code of Dangerous Goods.
GB12268-2012: List of Dangerous Goods.
NLM: Hazardous Substances Data Base
US. IARC Monographs on Occupational Exposures to Chemical Agents

Disclaimer The information in the sheet was written based on the best knowledge and experience currently available.