

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME:..... WEST SYSTEM® 420 Aluminum Powder
APPLICABLE PRODUCT CODES: 420, 420-36
CHEMICAL FAMILY:..... Aluminum powder - stabilized.
INTENDED PRODUCT USES:..... Pigment additive for liquid epoxy resins.
PRODUCT RESTRICTIONS:..... None identified.
SDS VERSION: 420-2019a

MANUFACTURER:
Gougeon Brothers, Inc.
100 Patterson Ave.
Bay City, MI 48706, U.S.A.
Phone: 866-937-8797 or 989-684-7286
www.westsystem.com

EMERGENCY TELEPHONE NUMBERS (24 HRS):
Transportation
CHEMTREC: 800-424-9300 (U.S.)
703-527-3887 (International)
Non-transportation
Poison Hotline: 800-222-1222

2. HAZARDS IDENTIFICATION

Classification of Substance or Mixture

Combustible dust

Label Elements

Hazard Pictogram(s):
None

Signal Word:
WARNING

Hazard Statements:
May form combustible dust concentrations in the air

Precautionary Statements:
Prevention
Keep away from all ignition sources including heat, sparks and open flame.
Prevent dust accumulations to minimize explosion hazard.

Other Hazards
None known.

3. COMPOSITION/INFORMATION ON HAZARDOUS INGREDIENTS

INGREDIENT NAME	CAS #	CONCENTRATION (%)
Aluminum	7429-90-5	98-100

The exact chemical identity and/or exact percentage (concentration) of each ingredient may be held as confidential business information (CBI). Any ingredient not disclosed in this section may have been determined not to be hazardous to health or the environment, or it may be present at a level below its disclosure threshold.

4. FIRST AID MEASURES

FIRST AID FOR EYES:..... SYMPTOMS: Excessive exposure may cause mechanical irritation and tearing. RESPONSE: Flush with water for at least 15 minutes. Remove contact lenses if present and easy to do. Consult a physician if symptoms develop and persist.

FIRST AID FOR SKIN:..... SYMPTOMS: May cause mild skin irritation. RESPONSE: Wash with mild soap and water.

FIRST AID FOR INHALATION:..... SYMPTOMS: Excessive exposure may cause slight respiratory irritation. RESPONSE: Remove to fresh air if symptoms develop and keep comfortable for breathing. Seek medical advice if symptoms develop and persist.

FIRST AID FOR INGESTION:..... SYMPTOMS: No acute adverse health effects expected from amounts ingested under normal conditions of use. RESPONSE: Seek medical attention if a significant amount is ingested.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: SUITABLE: DRY sand, sodium chloride powder, graphite powder or Met-L-X powder. Use only agents suitable for metal fires. Confining and smothering metals fires is preferred rather than applying water. Apply

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extinguishing media carefully to avoid creating airborne dust. NON-SUITABLE: Do not use water, foam or CO₂ or any high-pressure media. Using water on metallic fires may generate hydrogen gas, creating a dangerous explosion hazard.

FIRE AND EXPLOSION HAZARDS: Possible explosion hazard. May form combustible dust concentrations in the air. See Section 9 for additional information. Combustion may result in the release of carbon monoxide and carbon dioxide.

SPECIAL FIRE FIGHTING PROCEDURES: In the event of a fire, do not breathe fumes. Wear a self-contained breathing apparatus and complete full-body personal protective equipment. Dust may form an explosive mixture in the air, possibly resulting in a secondary explosion. Apply only suitable extinguishing agents to fire.

6. ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES: Use only non-spark tools and methods. Keep unnecessary and unprotected personnel from entering area. Use appropriate safety and personal protective equipment as indicated in Section 8.

MITIGATION AND CLEAN UP PROCEDURES: Eliminate all ignition sources (no smoking, flares, sparks, flames, etc.). Take precautionary measures to prevent static discharge. Use methods that avoid generating airborne dust. Use a vacuum with high efficiency particulate air (HEPA) filtration is recommended. Do not create a dust cloud by brushing or sweeping, or using compressed air.

ENVIRONMENTAL PRECAUTIONS:..... Contain spilled product to the extent practical and feasible.

7. HANDLING AND STORAGE

STORAGE TEMPERATURE (min./max.): 0°F (-17°C) / 95°F (35°C)

STORAGE:..... Store in cool, dry place. Keep container tightly closed in a dry area and do not allow contact with water. Do not store directly in the sun or in conditions exceeding 95°F (35°C). Keep away from sources of ignition or heat. Avoid storing near water sources and other incompatible materials identified in Section 10.

HANDLING PRECAUTIONS: Avoid dust formation. Avoid breathing dust. Wash hands and face after handling. Provide appropriate exhaust ventilation at points of operation where dust can be generated. Use only equipment that is rated for safe handling of combustible solids. Avoid using compressed air. Dust may form explosive mixture with air. Take precautionary measures against static discharges. Metal parts of mixing and processing equipment should be earthed/grounded. Dust deposits should not be allowed to accumulate on surfaces. Implement routine housekeeping to prevent dust build-up. Do not allow contact with water. Product will react with water to generate highly flammable hydrogen gas.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:..... Use with adequate general ventilation and/or local ventilation to keep exposures below established limits.

EYE PROTECTION GUIDELINES: Safety glasses with side shields, or goggles if necessary.

SKIN PROTECTION GUIDELINES:..... Liquid-proof gloves (such as neoprene or nitrile) should be used in cases of prolonged or repeated contact to prevent skin irritation. Barrier creams can be used effectively.

RESPIRATORY PROTECTION GUIDELINES: When ventilation cannot be made adequate enough to keep exposures below established limits, use a NIOSH approved respirator with particulate filter, such as a N95 or greater, depending on specific workplace conditions. Consult with your respirator and cartridge supplier to ensure proper selection of respirator and cartridge based on ingredients listed in Section 3 and specific workplace conditions. Use and select a respirator according the guidelines established in OSHA 1910.134 or other applicable respiratory protection standard.

ADDITIONAL PROTECTIVE MEASURES:..... Practice good caution and personal cleanliness to avoid skin and eye contact. Wash thoroughly after handling. Do not eat, drink or smoke when handling this product. Generally speaking, working cleanly and following basic precautionary measures will greatly minimize the exposure to this product under normal use conditions.

OCCUPATIONAL EXPOSURE LIMITS: Exposure limits may not be established for this product as a whole. For established exposure limits of specific ingredients in this product, or other available exposure limit information, refer to the table below.

Ingredient Name	CAS#	Exposure Limit Information
Aluminum	7429-90-5	OSHA: Table Z-1, PEL 15 mg/m ³ , TWA, total dust; 5 mg/m ³ , TWA, Respirable ACGIH: TLV, 1mg/m ³ , TWA, Respirable NIOSH: REL, 10 mg/ m ³ total dust; 5 mg/m ³ , TWA, Respirable

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM: Powder, solid.

COLOR: Silver-gray.

ODOR:..... No distinguishable odor.

ODOR THRESHOLD:..... No data available

pH:..... No data available

MELTING POINT / FREEZING POINT	No data available
BOILING POINT (760mm/Hg):	4220.6 °F (2327 °C) estimated
FLASH POINT:	No data available
AUTO IGNITION TEMPERATURE	1094 °F (590 °C)
LOWER EXPLOSIVE LIMIT (LEL)	No data available
UPPER EXPLOSIVE LIMIT (UEL)	No data available
VAPOR PRESSURE	No data available
SPECIFIC GRAVITY/DENSITY (water = 1)	2.5 – 2.7
BULK DENSITY	20.86 – 22.53 lb./gal. calculated
VAPOR DENSITY (air = 1)	No data available
EVAPORATION RATE (Butyl Acetate = 1)	No data available
WATER SOLUBILITY (% BY WT.)	Largely insoluble.
PARTITION COEFFICIENT, n-OCTANOL/WATER (log Pow)	No data available
KINEMATIC VISCOSITY:	No data available (mm ² /s @ 20°C)
DECOMPOSITION TEMPERATURE:	No data available.
% VOLATILE BY WEIGHT:	0.0%.
EXPLOSIVE PROPERTIES:	Dust may form explosive mixtures in air. Explosive properties of this mixture have not been measured. One or more of the components of this mixture have been identified as having the potential to form an explosive mixture with air when suspended as a dust cloud.
Kst VALUE:	300 - 400
MAXIMUM EXPLOSION PRESSURE (Pmax)	12.4 bar
MINIMUM IGNITION ENERGY (MIE):	50 mJ
MAXIMUM EXPLOSION CONCENTRATION (MEC):	No data available
DUST EXPLOSION CLASSIFICATION:	Class 3

10. STABILITY AND REACTIVITY

STABILITY:	Product is stable at normal temperatures and pressures.
REACTIVITY/HAZARDOUS REACTIONS:	Product will react with water to generate highly flammable hydrogen gas. The rate of gas generation does not meet physical hazard classification criteria.
INCOMPATIBILITIES:	Nitrates, water, acids, caustics.
CONDITIONS TO AVOID:	Avoid settling dust collection and airborne dust formation. Avoid a moist or wet environment. Avoid direct heat or excessive sunlight.
DECOMPOSITION PRODUCTS:	Carbon monoxide, carbon dioxide.

11. TOXICOLOGICAL AND HAZARD ENDPOINT INFORMATION

Component Name	CAS#	LD ₅₀ Oral	LD ₅₀ Dermal	LC ₅₀ Inhalation
Aluminum	7429-90-5	> 2000 mg/kg	No data	< 888 mg/L 4 h

ACUTE TOXICITY:	No specific toxicity data exists for this mixture. Classification is based on acute toxicity estimation methods using ingredient data.
Oral:	Not classified. Does not meet acute oral toxicity criteria.
Dermal:	Not classified. Does not meet acute dermal toxicity criteria.
Inhalation:	Not classified. Does not meet acute inhalation toxicity criteria.
SKIN CORROSION / IRRITATION:	Not classified. Does not meet criteria for skin corrosion/irritation.
SERIOUS EYE DAMAGE / IRRITATION:	Not classified. Does not meet criteria for serious eye damage/irritation.
RESPIRATORY SENSITIZATION:	Not classified. Does not meet criteria for respiratory sensitizer.
SKIN SENSITIZATION:	Not classified. Does not meet criteria for skin sensitization.
REPRODUCTIVE TOXICITY:	Not classified. Does not meet criteria for reproductive toxicity.
MUTAGENICITY:	Not classified. Does not meet criteria for mutagenicity.
CARCINOGENICITY:	Not classified. Does not meet criteria for carcinogenicity. Does not contain components > 0.1% that are listed as a carcinogen by IARC, NTP or OSHA.
STOT (Single Exposure):	Not classified. Does not meet STOT SE criteria.
STOT (Repeated Exposure):	Not classified. Does not meet STOT RE criteria.
ASPIRATION HAZARD:	Not classified. Does not meet aspiration toxicity criteria.
OTHER HEALTH HAZARD INFORMATION:	Dust overload may cause slight respiratory irritation. May cause slight mechanical irritation to the eye.

12. ECOLOGICAL INFORMATION

ACUTE AQUATIC TOXICITY:..... No specific test data available for this product. Calculated Estimate: Does not meet acute aquatic toxicity criteria.

CHRONIC AQUATIC TOXICITY:..... No specific test data available for this product. Calculated Estimate: Does not meet chronic aquatic toxicity criteria.

PERSISTENCE AND BIODEGRADABILITY: No specific test data available for this product.

MOBILITY IN SOIL: No specific test data available for this product.

ADDITIONAL ECOTOXICITY INFORMATION:..... Prevent release to the environment, sewers and natural waters.

Ingredient	CAS#	Ecotoxicity Classification Information
Aluminum	7429-90-5	No data available.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD:..... Evaluation of this product using RCRA criteria shows that it is not a hazardous waste, either by listing or characteristics, in its purchased form. It is the responsibility of the user to determine proper disposal methods.

Reclaim or reuse may be preferred methods when conducted in accordance with federal, state and local regulations.

14. TRANSPORTATION INFORMATION

US DOT

UN NUMBER:..... Not regulated.
 SHIPPING NAME:..... Not applicable.
 TECHNICAL SHIPPING NAME:..... Not applicable.
 HAZARD CLASS:..... Not applicable.
 PACKING GROUP:..... Not applicable.

CANADA TDG

UN NUMBER:..... Not regulated.
 SHIPPING NAME:..... Not applicable.
 TECHNICAL SHIPPING NAME:..... Not applicable.
 HAZARD CLASS:..... Not applicable.
 PACKING GROUP:..... Not applicable.

ICAO/IATA

UN NUMBER:..... Not regulated.
 SHIPPING NAME:..... Not applicable.
 TECHNICAL SHIPPING NAME:..... Not applicable.
 HAZARD CLASS:..... Not applicable.
 PACKING GROUP:..... Not applicable.
 MARINE POLLUTANT:..... Not applicable.

IMDG

UN NUMBER:..... Not regulated.
 SHIPPING NAME:..... Not applicable.
 TECHNICAL SHIPPING NAME:..... Not applicable.
 HAZARD CLASS:..... Not applicable.
 PACKING GROUP:..... Not applicable.
 EmS Number: Not applicable.
 MARINE POLLUTANT Not applicable.

15. REGULATORY INFORMATION

COUNTRY	INVENTORY LIST	STATUS
United States	TSCA	All ingredients are listed or otherwise compliant.
Europe	EINECS or ELINCS	All ingredients are listed or otherwise compliant.
Canada	CEPA (DSL/NDSL)	CAS# 7429-90-5 listed on DSL. Not listed on NDSL.
Australia	AICS	All ingredients are listed or otherwise compliant.
Japan	ENCS	All ingredients are listed or otherwise compliant.
South Korea	KECI	All ingredients are listed or otherwise compliant.
China	IECSC	All ingredients are listed or otherwise compliant.
Philippines	PICCS	All ingredients are listed or otherwise compliant.
New Zealand	NZIoC	All ingredients are listed or otherwise compliant.

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US EPA TSCA Requirements:..... No data available.

Canada WHMIS Confidential Business Information (CBI):..... No data available.

US EPA SARA TITLE III Reporting and Notification Requirements:

- Subject to Section 302 (TPQ) No data available.
- Subject to Section 304 (RQ)..... No data available.
- Subject to Section 311 or 312 Refer to the health and physical classifications in section 2.
- Subject to Section 313 CAS# 7429-90-5 is subject to TRI reporting under SARA Title III.

STATE REGULATORY INFORMATION:

Chemicals listed below may be specifically regulated by individual states. For details on state regulatory requirements you should contact the appropriate state agency.

COMPONENT NAME

CAS NUMBER

This product may contain trace levels of various metallic impurities at levels below their analytical (ppm) detection limits. Metallic pigments may contain naturally occurring heavy metals not intentionally added during the manufacturing process.
CAS# (Not Applicable)

STATE CODE

¹CA

¹: These substances are known to the state of California to cause cancer or reproductive harm, or both.

16. OTHER INFORMATION

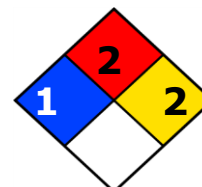
REASON FOR ISSUE:..... Updates to sections 3, 8, 11 & 15.
PREPARED BY:..... Gougeon Brothers, Inc.
SDS CONTACT:..... safety@gougeon.com
TITLE: Health, Safety & Environmental Manager
APPROVAL DATE: January 15, 2019
SUPERSEDES DATE: October 21, 2016
SDS VERSION: 420-2019a

OTHER HAZARD INFORMATION AND RATING SYSTEMS:

HMIS[®] RATING

HEALTH:	1
FLAMMABILITY:	2
PHYSICAL HAZARD:	2
PERSONAL PROTECTION:	

NFPA[®] 704 CODES



Approximate HMIS and NFPA Risk Ratings Legend:
0 = Low or None; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe

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