



# PRODUCT INFORMATION SHEET

**MATERION**

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

<b>Trade name or designation of the mixture</b>	Aluminum Silicon Alloy
<b>Registration number</b>	-
<b>Document number</b>	L64
<b>Synonyms</b>	AMC4632, AMC4632E, AMC4631, AMC4630, Aluminum Silicon Alloy
<b>Issue date</b>	27-August-2019
<b>Version number</b>	04
<b>Revision date</b>	21-August-2023
<b>Supersedes date</b>	21-August-2023

### 1.3. Details of the supplier of the product information sheet

#### Supplier

**Company name** Materion Brush Inc.  
**Address** 6070 Parkland Boulevard  
Mayfield Heights, OH 44124  
United States

#### Division

**Telephone** 1.216.383.4019  
**e-mail** ehs@materion.com  
**Contact person** Theodore Knudson

**1.4. Emergency telephone number** See Section 16.

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

**Identified uses** Industrial uses: Uses of substances as such or in preparations at industrial sites  
Manufacture of basic metals, including alloys  
Manufacture of computer, electronic and optical products, electrical equipment  
General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment  
Electricity, steam, gas water supply and sewage treatment  
Scientific research and development  
Other: Manufacture of medical and defense equipment

**Uses advised against** Professional uses: Public domain (administration, education, entertainment, services, craftsmen)  
Consumer uses: Private households (= general public = consumers)

### 1.3. Details of the supplier of the safety data sheet

#### Supplier

**Company name** Materion Brush Inc.  
**Address** 6070 Parkland Boulevard  
Mayfield Heights, OH 44124  
United States

#### Division

**Telephone** 1.216.383.4019  
**e-mail** ehs@materion.com  
**Contact person** Theodore Knudson

**1.4. Emergency telephone number** See Section 16.

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

#### Classification according to Regulation (EC) No 1272/2008 as amended

##### Health hazards

Skin sensitisation Category 1 H317 - May cause an allergic skin reaction.

Carcinogenicity	Category 2	H351 - Suspected of causing cancer.
Specific target organ toxicity - repeated exposure	Category 1 (Respiratory system)	H372 - Causes damage to organs (respiratory system) through prolonged or repeated exposure by inhalation. H372 - Causes damage to organs (Respiratory system) through prolonged or repeated exposure.

**Hazard summary** Causes damage to organs through prolonged or repeated exposure. Suspected of causing cancer. May cause an allergic skin reaction. Prolonged exposure may cause chronic effects. Occupational exposure to the substance or mixture may cause adverse health effects.

## 2.2. Label elements

### Label according to Regulation (EC) No. 1272/2008 as amended

**Contains:** Aluminium, Copper, Iron, magnesium, powder or turnings, Nickel, Silicon

#### Hazard pictograms



#### Signal word

Danger

#### Hazard statements

	The material as sold in solid form is generally not considered hazardous. However, if the process involves grinding, melting, cutting or any other process that causes a release of dust or fumes, hazardous levels of airborne particulate could be generated.
H317	May cause an allergic skin reaction.
H372	Causes damage to organs (respiratory system) through prolonged or repeated exposure by inhalation.
H351	Suspected of causing cancer.
H372	Causes damage to organs (Respiratory system) through prolonged or repeated exposure

### Precautionary statements

#### 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/fume/gas/mist/vapours/spray.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

#### Response

P302 + P350	If on skin: Wash with plenty of water.
P308 + P313	If exposed or concerned: Get medical advice/attention.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P363	Wash contaminated clothing before reuse.

#### Storage

P405	Store locked up.
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#### Disposal

P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
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### Supplemental label information

For further information, please contact the Product Stewardship Department at +1.216.383.4019.

### 2.3. Other hazards

This mixture does not contain substances assessed to be vPvB / PBT according to Regulation (EC) No 1907/2006, Annex XIII.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

#### General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Aluminium	71 - 87	7429-90-5 231-072-3	-	013-002-00-1	
<b>Classification:</b> Aquatic Acute 1;H400, Aquatic Chronic 1;H410					T

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Silicon	9 - 24	7440-21-3 231-130-8	-	-	
<b>Classification:</b> -					
Copper	1,8 - 2,2	7440-50-8 231-159-6	01-2119480154-42-0080	-	
<b>Classification:</b> -					
Iron	1,6 - 2	7439-89-6 231-096-4	-	-	
<b>Classification:</b> STOT RE 1;H372					
Nickel	0,7 - 1,1	7440-02-0 231-111-4	01-2119438727-29-0049	028-002-00-7	
<b>Classification:</b> Skin Sens. 1;H317, STOT SE 3;H335, Carc. 2;H351, STOT RE 2;H373					
magnesium, powder or turnings	0,5 - 0,7	7439-95-4 231-104-6	-	-	
<b>Classification:</b> Flam. Sol. 1;H228, Self-heat. 2;H252, Water-React. 2;H261					
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#### List of abbreviations and symbols that may be used above

#: This substance has been assigned Union workplace exposure limit(s).

M: M-factor

PBT: persistent, bioaccumulative and toxic substance.

vPvB: very persistent and very bioaccumulative substance.

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

**Composition comments** The full text for all H-statements is displayed in section 16.

## SECTION 4: First aid measures

### General information

If exposed or concerned: get medical attention/advice. IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

### 4.1. Description of first aid measures

#### Inhalation

Move to fresh air. Call a physician if symptoms develop or persist.

#### 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.

#### Eye contact

Rinse with water. Get medical attention if irritation develops and persists.

#### Ingestion

Rinse mouth. Get medical attention if symptoms occur.

### 4.2. Most important symptoms and effects, both acute and delayed

May cause an allergic skin reaction. Dermatitis. Rash. Prolonged exposure may cause chronic effects.

### 4.3. Indication of any immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

## SECTION 5: Firefighting measures

### General fire hazards

No unusual fire or explosion hazards noted.

### 5.1. Extinguishing media

#### Suitable extinguishing media

Powder. Dry sand.

#### Unsuitable extinguishing media

Water. Do not use water jet as an extinguisher, as this will spread the fire. Carbon dioxide (CO<sub>2</sub>).

### 5.2. Special hazards arising from the substance or mixture

During fire, gases hazardous to health may be formed.

### 5.3. Advice for firefighters

#### Special protective equipment for firefighters

Wear suitable protective equipment. Pressure-demand self-contained breathing apparatus must be worn by firefighters or any other persons potentially exposed to the particulate released during or after a fire.

**Special firefighting procedures** Water runoff can cause environmental damage.

**Specific methods** Use standard firefighting procedures and consider the hazards of other involved materials.

## SECTION 6: Accidental release measures

### 6.1. 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. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS. As supplied, this product poses no special release issues.

**For emergency responders** Keep unnecessary personnel away. As supplied, this product poses no special release issues.

**6.2. Environmental precautions** Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

**6.3. Methods and material for containment and cleaning up** Collect spillage. The product is immiscible with water and will spread on the water surface. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. Put material in suitable, covered, labeled containers.

**6.4. Reference to other sections** For personal protection, see section 8. For waste disposal, see section 13. For personal protection, see section 8 of the PIS. For waste disposal, see section 13 of the PIS.

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling** Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not taste or swallow. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Do not empty into drains. Use appropriate container to avoid environmental contamination. Observe good industrial hygiene practices. Wear suitable gloves.

**7.2. Conditions for safe storage, including any incompatibilities** Store locked up. Store in a cool, dry place out of direct sunlight. Use appropriate container to avoid environmental contamination. Keep container tightly closed. Store in tightly closed container. Store in a dry place. Store away from incompatible materials (see Section 10 of the SDS).

**7.3. Specific end use(s)** Not available.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limits

##### Norway. Administrative Norms for Contaminants in the Workplace

Components	Type	Value	Form
Aluminium (CAS 7429-90-5)	TLV	5 mg/m3	Welding fume.
		5 mg/m3	Pyrophoric powder.
Copper (CAS 7440-50-8)	TLV	1 mg/m3	Dust.
		0,1 mg/m3	Fume.
Nickel (CAS 7440-02-0)	TLV	0,05 mg/m3	
Silicon (CAS 7440-21-3)	TLV	10 mg/m3	

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

**Recommended monitoring procedures** Follow standard monitoring procedures.

**Derived no effect levels (DNELs)** Not available.

**Predicted no effect concentrations (PNECs)** Not available.

### 8.2. Exposure controls

**Appropriate engineering controls** 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.

#### Individual protection measures, such as personal protective equipment

**General information** Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

<b>Eye/face protection</b>	If contact is likely, safety glasses with side shields are recommended. Wear approved safety glasses, goggles, face shield and/or welder's helmet when risk of eye injury is present, particularly during operations that generate dust, mist or fume.
<b>Skin protection</b>	
- <b>Hand protection</b>	Wear appropriate chemical resistant gloves. Wear gloves to prevent contact with particulate or solutions. Wear gloves to prevent metal cuts and skin abrasions during handling.
- <b>Other</b>	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended. Protective overgarments or work clothing must be worn by persons who may become contaminated with particulate during activities.
<b>Respiratory protection</b>	In case of insufficient ventilation, wear suitable respiratory equipment. When airborne exposures exceed or have the potential to exceed the occupational exposure limits, approved respirators must be used as specified by an Industrial Hygienist or other qualified professional. Respirator users must be medically evaluated to determine if they are physically capable of wearing a respirator. Quantitative and/or qualitative fit testing and respirator training must be satisfactorily completed by all personnel prior to respirator use. Users of tight fitting respirators must be clean shaven on those areas of the face where the respirator seal contacts the face. Use pressure-demand airline respirators when performing jobs with high potential exposures such as changing filters in a baghouse air cleaning device.
<b>Thermal hazards</b>	Not applicable.
<b>Hygiene measures</b>	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. 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.
<b>Environmental exposure controls</b>	Inform appropriate managerial or supervisory personnel of all environmental releases.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

#### Appearance

<b>Physical state</b>	Solid.
<b>Form</b>	Solid.
<b>Colour</b>	Silver. Grey metallic.

**Odour** None.

**Odour threshold** Not applicable.

**pH** Not applicable.

**Melting point/freezing point** > 548 °C (> 1018,4 °F) estimated / Not applicable.

**Initial boiling point and boiling range** Not applicable.

**Flash point** Not applicable.

**Evaporation rate** Not applicable.

**Flammability (solid, gas)** None known.

#### Upper/lower flammability or explosive limits

<b>Flammability limit - lower (%)</b>	Not applicable.
<b>Flammability limit - upper (%)</b>	Not applicable.
<b>Explosive limit - lower (%)</b>	Not applicable.
<b>Explosive limit – upper (%)</b>	Not applicable.

**Vapour pressure** Not applicable.

**Vapour density** Not applicable.

**Relative density** Not applicable.

#### Solubility(ies)

**Solubility (water)** Insoluble

**Partition coefficient (n-octanol/water)** Not applicable.

<b>Auto-ignition temperature</b>	Not applicable.
<b>Decomposition temperature</b>	Not applicable.
<b>Viscosity</b>	Not applicable.
<b>Explosive properties</b>	Not explosive.
<b>Oxidising properties</b>	Not oxidising.

## 9.2. Other information

<b>Density</b>	2,80 g/cm <sup>3</sup> estimated
<b>Specific gravity</b>	2,8 estimated

## SECTION 10: Stability and reactivity

<b>10.1. Reactivity</b>	Not available.
<b>10.2. Chemical stability</b>	Material is stable under normal conditions.
<b>10.3. Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>10.4. Conditions to avoid</b>	Avoid temperatures exceeding the decomposition temperature. Contact with incompatible materials.
<b>10.5. Incompatible materials</b>	Strong oxidising agents. Chlorine. Fluorine.
<b>10.6. Hazardous decomposition products</b>	No hazardous decomposition products are known.

## SECTION 11: Toxicological information

<b>General information</b>	Occupational exposure to the substance or mixture may cause adverse effects.
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### Information on likely routes of exposure

<b>Inhalation</b>	Prolonged inhalation may be harmful.
<b>Skin contact</b>	May cause an allergic skin reaction.
<b>Eye contact</b>	Direct contact with eyes may cause temporary irritation.
<b>Ingestion</b>	May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.

<b>Symptoms</b>	Direct contact with eyes may cause temporary irritation. May cause an allergic skin reaction. Dermatitis. Rash.
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### 11.1. Information on toxicological effects

<b>Acute toxicity</b>	Not applicable.
<b>Skin corrosion/irritation</b>	Prolonged skin contact may cause temporary irritation. Due to partial or complete lack of data the classification is not possible.
<b>Serious eye damage/eye irritation</b>	Direct contact with eyes may cause temporary irritation.
<b>Respiratory sensitisation</b>	Not a respiratory sensitizer. Due to partial or complete lack of data the classification is not possible
<b>Skin sensitisation</b>	May cause an allergic skin reaction.
<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
<b>Carcinogenicity</b>	Suspected of causing cancer.

#### IARC Monographs. Overall Evaluation of Carcinogenicity

Nickel (CAS 7440-02-0)	2B Possibly carcinogenic to humans.
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<b>Reproductive toxicity</b>	This product is not expected to cause reproductive or developmental effects.
<b>Specific target organ toxicity - single exposure</b>	Due to partial or complete lack of data the classification is not possible.
<b>Specific target organ toxicity - repeated exposure</b>	Causes damage to organs (Respiratory system) through prolonged or repeated exposure. Causes damage to organs ( ) through prolonged or repeated exposure by inhalation.
<b>Aspiration hazard</b>	Not an aspiration hazard. Due to partial or complete lack of data the classification is not possible
<b>Mixture versus substance information</b>	No information available.
<b>Other information</b>	Not available.

## SECTION 12: Ecological information

<b>12.1. Toxicity</b>	Based on available data, the classification criteria are not met for hazardous to the aquatic environment.
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Product	Species		Test Results
Aluminum Silicon Alloy			
<b>Aquatic</b>			
<i>Acute</i>			
Fish	LC50	Fish	1,475 mg/l, 96 hours estimated
<b>Components</b>	<b>Species</b>		<b>Test Results</b>

Copper (CAS 7440-50-8)			
<b>Aquatic</b>			
<i>Acute</i>			
Crustacea	EC50	Blue crab ( <i>Callinectes sapidus</i> )	0,0031 mg/l
Fish	LC50	Fathead minnow ( <i>Pimephales promelas</i> )	0,0219 - 0,0446 mg/l, 96 hours

Nickel (CAS 7440-02-0)			
<b>Aquatic</b>			
<i>Acute</i>			
Fish	LC50	Rainbow trout, donaldson trout ( <i>Oncorhynchus mykiss</i> )	0,06 mg/l, 4 days

**12.2. Persistence and degradability** No data is available on the degradability of this product.

**12.3. Bioaccumulative potential** No data available.

**Partition coefficient n-octanol/water (log Kow)** Not available.

**Bioconcentration factor (BCF)** Not available.

**12.4. Mobility in soil** No data available.

**12.5. Results of PBT and vPvB assessment** This mixture does not contain substances assessed to be vPvB / PBT according to Regulation (EC) No 1907/2006, Annex XIII.

**12.6. Other adverse 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

### 13.1. Waste treatment methods

**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.

**EU waste code** The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Disposal methods/information** Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

**Special precautions** Dispose in accordance with all applicable regulations.

## SECTION 14: Transport information

### ADR

14.1. - 14.6.: Not regulated as dangerous goods.

### RID

14.1. - 14.6.: Not regulated as dangerous goods.

### ADN

14.1. - 14.6.: Not regulated as dangerous goods.

### IATA

14.1. - 14.6.: Not regulated as dangerous goods.

### IMDG

14.1. - 14.6.: Not regulated as dangerous goods.

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### EU regulations

**Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended**

Not listed.

**Regulation (EU) 2019/1021 On persistent organic pollutants (recast), as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended**

Not listed.

**Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended**

Aluminium (CAS 7429-90-5)

Copper (CAS 7440-50-8)

Nickel (CAS 7440-02-0)

**Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA**

Not listed.

**Authorisations**

**Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended**

Not listed.

**Restrictions on use**

**Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended**

Aluminium (CAS 7429-90-5)

Nickel (CAS 7440-02-0)

**Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.**

Not listed.

**Other EU regulations**

**Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended**

Aluminium (CAS 7429-90-5)

Copper (CAS 7440-50-8)

magnesium, powder or turnings (CAS 7439-95-4)

**Other regulations**

The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended.

**National regulations**

According to Directive 92/85/EEC as amended, pregnant women should not work with the product, if there is the least risk of exposure.

Follow national regulation for work with chemical agents in accordance with Directive 98/24/EC, as amended.

**15.2. Chemical safety assessment**

No Chemical Safety Assessment has been carried out.

**SECTION 16: Other information**

**List of abbreviations**

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

CAS: Chemical Abstract Service.

CEN: European Committee for Standardization.

IATA: International Air Transport Association.

IBC: Intermediate Bulk Container.

IMDG: International Maritime Dangerous Goods.

MARPOL: International Convention for the Prevention of Pollution from Ships.

PBT: Persistent, bioaccumulative, toxic.

RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.

STEL: Short term exposure limit.

TLV: Threshold Limit Value.



vPvB: Very persistent and very bioaccumulative.

#### References

Not available.

#### Information on evaluation method leading to the classification of mixture

The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

#### Training information

Follow training instructions when handling this material.

#### Further information

Transportation Emergency

Call Chemtrec at:

US: 800.424.9300

International: 703.741.5970

Spain: 900.868.538

Switzerland: 0800.564.402

Chemtrec's toll free, mobile-enabled number in Germany – 0800 1817059

South Korea Toll-free Number – 080-880-0468

#### Disclaimer

To avoid any misunderstandings or incorrect assumptions by the receiver of the safety information, it should be made clear that the supplied information is not in the form of a Safety Data Sheet (SDS), but is actually a voluntary Product Information Sheet closely following the guidelines of the Safety Data Sheet – COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 (REACH/SDS).