

Safety Data Sheet

Aurous 19

Date: 05/21/2021

Version: 3

1. Identification

1.1. Product identifier

Product Identity Aurous 19

Alternate Names Aurous 19

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

Intended use Passivation for aluminum

Application Method See Technical Data Sheet

1.3. Details of the supplier of the safety data sheet

Company Name U.S. Specialty Color Corporation
5624 Cannon Drive
Monroe, NC 28110

Emergency

24 hour Emergency Telephone No. 1-800-424-9300

Customer Service: U.S. Specialty Color Corporation 704-292-1476

2. Hazard(s) identification

2.1. Classification of the substance or mixture

Ox. Sol. 1;H271	May cause fire or explosion; strong oxidizer.
Acute Tox. 3;H301	Toxic if swallowed.
Acute Tox. 2;H310	Fatal in contact with skin.
Acute Tox. 2;H330	Fatal if inhaled.
Skin Corr. 1A;H314	Causes severe skin burns and eye damage.
Eye Dam. 1;H318	Causes serious eye damage.
Skin Sens. 1;H317	May cause an allergic skin reaction.
Resp. Sens. 1;H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Muta. 1B;H340	May cause genetic defects.
Carc. 1A;H350	May cause cancer.
Repr. 2;H361F	Suspected of damaging fertility.
STOT SE 3;H335	May cause respiratory irritation.
STOT RE 1;H372	Causes damage to organs through prolonged or repeated exposure. Specific Target Organs: (Not Available)
Aquatic Chronic 1;H410	Very toxic to aquatic life with long lasting effects.

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2.2. Label elements

Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.



Danger

H271 May cause fire or explosion; strong oxidizer.

H301 Toxic if swallowed.

H310 Fatal in contact with skin.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H330 Fatal if inhaled.

H334 May cause allergic or asthmatic symptoms or breathing difficulties if inhaled.

H335 May cause respiratory irritation.

H340 May cause genetic defects.

H350 May cause cancer.

H361f Suspected of damaging fertility.

H372 Causes damage to organs through prolonged or repeated exposure.

H410 Very toxic to aquatic life with long lasting effects.

[Prevention]:

P201 Obtain special instructions before use.

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

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

P220 Keep / Store away from clothing combustible materials.

P221 Take any precaution to avoid mixing with combustibles.

P261 Avoid breathing dust / fume / gas / mist / vapors / spray.

P262 Do not get in eyes, on skin, or on clothing.

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P272 Contaminated work clothing should not be allowed out of the workplace.

P273 Avoid release to the environment.

P280 Wear protective gloves / eye protection / face protection.

P283 Wear fire / flame resistant / retardant clothing.

P284 Wear respiratory protection.

[Response]:

P301+310 IF SWALLOWED: Immediately call a POISON CENTER or doctor / physician.

P302+350 IF ON SKIN: Gently wash with soap and water.

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P303+361+353 IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water / shower.

P304+312 IF INHALED: Call a POISON CENTER or doctor / physician if you feel unwell.

P305+351+338 IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.

P306+360 IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.

P308+313 IF exposed or concerned: Get medical advice / attention.

P310 Immediately call a POISON CENTER or doctor / physician.

P314 Get Medical advice / attention if you feel unwell.

P320 Specific treatment is urgent (see information on this label).

P331 Do NOT induce vomiting.

P333+313 If skin irritation or a rash occurs: Get medical advice / attention.

P340 Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P341 If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

P342+311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor / physician.

P352 Wash with plenty of soap and water.

P363 Wash contaminated clothing before reuse.

P370+380+375 In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.

P371 In case of major fire and large quantities:

P378 Use alcohol resistant foam, CO2, powder, water spray for extinction. Do not use water jet.

P391 Collect spillage.

[Storage]:

P403+233 Store in a well ventilated place. Keep container tightly closed.

P405 Store locked up.

[Disposal]:

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

3. Composition/information on ingredients

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
Chromium trioxide CAS Number: 1333-82-0	50 - 75	Ox. Sol. 1;H271 Carc. 1A;H350 Muta. 1B;H340 Repr. 2;H361f Acute Tox. 2;H330 Acute Tox. 3;H311 Acute Tox. 3;H301 STOT RE 1;H372 Skin Corr. 1A;H314 Resp. Sens. 1;H334 Skin Sens. 1;H317 Aquatic Acute 1;H400 Aquatic Chronic 1;H410	[1][2][3]

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Barium nitrate CAS Number: 10022-31-8	10 - 25	Ox. Liq. 2;H272 Acute Tox. 4;H302 Acute Tox. 4;H332	[1][2]
Sodium silicofluoride CAS Number: 16893-85-9	10 - 25	Acute Tox. 3;H331 Acute Tox. 3;H311 Acute Tox. 3;H301	[1]
Potassium ferricyanide CAS Number: 13746-66-2	1.0 - 10	Skin Irrit. 2;H315 Eye Irrit. 2;H319 STOT SE 3;H335	[1]

In accordance with paragraph (i) of §1910.1200, the specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

[1] Substance classified with a health or environmental hazard.

[2] Substance with a workplace exposure limit.

[3] PBT-substance or vPvB-substance.

*The full texts of the phrases are shown in Section 16.

4. First aid measures

4.1. Description of first aid measures

General

In all cases of doubt, or when symptoms persist, seek medical attention.

Never give anything by mouth to an unconscious person.

Inhalation

Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious place in the recovery position and obtain immediate medical attention. Give nothing by mouth.

Eyes

Irrigate copiously with clean water for at least 15 minutes, holding the eyelids apart and seek medical attention.

Skin

Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser.

Ingestion

Get immediate medical attention. Give water or milk to dilute. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to a victim who is unconscious or is having convulsions.

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

Overview

Emergency overview

May cause cancer, known human carcinogen: Chronic Acid

Harmful if swallowed.

Fatal in contact with skin or if inhaled.

Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

Oxidizer, may intensify fire.

Health effects of exposure:

Inhalation: Corrosive, extremely destructive to tissues of mucous membranes and upper respiratory tract. Symptoms may include coughing, sore throat, labored breathing.

Ingestion: Corrosive, swallowing can cause severe burns of mouth, throat, stomach, leading to death. May cause gastric disturbances, nausea, vomiting, dizziness, and diarrhea.

Skin: Corrosive, can cause severe irritation to the skin.

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	Eyes: Corrosive, can cause blurred vision, redness, pain, tissue burns and severe irritation. Reproductive or genetic defect hazard. See section 2 for further details.
Inhalation	Fatal if inhaled. May cause allergy or asthma symptoms of breathing difficulties if inhaled.
Eyes	Causes serious eye damage.
Skin	Fatal in contact with skin. May cause an allergic skin reaction. Causes severe skin burns and eye damage.
Ingestion	Toxic if swallowed.

5. Fire-fighting measures

5.1. Extinguishing media

Use media appropriate for surrounding fire.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition: Chromium compounds and/or toxic fumes of cyanide.

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

Keep / Store away from clothing combustible materials.

Take any precaution to avoid mixing with combustibles.

Avoid breathing dust / fume / gas / mist / vapors / spray.

Do not get in eyes, on skin, or on clothing.

5.3. Advice for fire-fighters

Unusual fire/explosion hazards: Material is a strong oxidizer: heat of reaction with reducing agents or strong combustibles may cause ignition. Will supply oxygen which may sustain or intensify a fire.

Hazardous combustion products: Irrigating and toxic gases or fumes may be released during a fire.

Fire-fighters should wear appropriate equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

ERG Guide No. 154

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Put on appropriate personal protective equipment (see section 8).

6.2. Environmental precautions

Do not allow spills to enter drains or waterways.

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

6.3. Methods and material for containment and cleaning up

Wear prescribed protective equipment. Vacuum or sweep up material and place in a designated container immediately. Prevent run off to drains, sewers or other public waterways.

Waste material may be disposed of by a licensed waste facility contractor.

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7. Handling and storage

7.1. Precautions for safe handling

Avoid contact with eyes, skin, and clothing. Eating, drinking, and smoking should be prohibited in areas where this material is handled. Wash hands and face before eating, drinking, and smoking. See section 8 for PPE.

See section 2 for further details. - [Prevention]:

7.2. Conditions for safe storage, including any incompatibilities

Handle containers carefully to prevent damage and spillage.

Incompatible materials: Alkaline materials, combustibles and organic material.

Store in original container, in a cool, dry location. Close package tightly after removal of product. Avoid dust formation. Keep away from sources of ignition.

See section 2 for further details. - [Storage]:

7.3. Specific end use(s)

No data available.

8. Exposure controls and personal protection

8.1. Control parameters

Exposure

CAS No.	Ingredient	Source	Value
1333-82-0	Chromium trioxide	OSHA	(as CrO ₃): TWA 0.005 mg/m ³
		ACGIH	No Established Limit
		NIOSH	(as Cr): Ca TWA 0.0002 mg/m ³ (8-hours)
		Supplier	No Established Limit
10022-31-8	Barium nitrate	OSHA	TWA 0.5 mg/m ³ [*Note:Also applies to other soluble barium compounds (as Ba) except Barium sulfate]
		ACGIH	No Established Limit
		NIOSH	TWA 0.5 mg/m ³ [*Note:Also applies to other soluble barium compounds (as Ba) except Barium sulfate.]
		Supplier	No Established Limit
13746-66-2	Potassium ferricyanide	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
		Supplier	No Established Limit
16893-85-9	Sodium silicofluoride	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
		Supplier	No Established Limit

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Carcinogen Data

CAS No.	Ingredient	Source	Value
0001333-82-0	Chromium trioxide	OSHA	Select Carcinogen: Yes
		NTP	Known: Yes
		IARC	Group 1: Yes
0010022-31-8	Barium nitrate	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;
0013746-66-2	Potassium ferricyanide	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;
0016893-85-9	Sodium silicofluoride	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;

8.2. Exposure controls

Respiratory

An appropriate NIOSH approved respirator for dust should be worn. Use type N95 (US) or type P1 (EN 143) dust masks.

Eyes

Wear chemical goggles and face shield.

Skin

Wear a rubber or plastic apron. Wear clothing suitable to avoid skin contact and clean after every shift. Wear impermeable rubber or plastic gloves.

Engineering Controls

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.

Other Work Practices

Eye wash fountain and emergency showers are recommended. Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

See section 2 for further details. - [Prevention]:

9. Physical and chemical properties

Appearance

Brown Flakes and Granules

Odor

Bland

Odor threshold

Not Measured

pH

Not Measured

Melting point / freezing point

Not Measured

Initial boiling point and boiling range

Not Measured

Flash Point

Not Measured

Evaporation rate (Ether = 1)

Not Measured

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Flammability (solid, gas)	Not Applicable
Upper/lower flammability or explosive limits	Lower Explosive Limit: Not Measured Upper Explosive Limit: Not Measured
Vapor pressure (Pa)	Not Measured
Vapor Density	Not Measured
Specific Gravity	Not Measured
Solubility in Water	Not Measured
Partition coefficient n-octanol/water (Log Kow)	Not Measured
Auto-ignition temperature	Not Measured
Decomposition temperature	Not Measured
Viscosity (cSt)	Not Measured

9.2. Other information

No other relevant information.

10. Stability and reactivity

10.1. Reactivity

Hazardous Polymerization will not occur.

10.2. Chemical stability

Stable under normal circumstances.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

No data available.

10.5. Incompatible materials

Alkaline materials, combustibles and organic material.

10.6. Hazardous decomposition products

Chromium compounds and/or toxic fumes of cyanide.

11. Toxicological information

Acute toxicity

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LD50, mg/L/4hr	Inhalation Dust/Mist LD50, mg/L/4hr	Inhalation Gas LD50, ppm
Chromium trioxide - (1333-82-0)	80.00, Rat - Category: 3	57.00, Rabbit - Category: 2	No data available	0.217, Rat - Category: 2	No data available
Barium nitrate - (10022-31-8)	No data available	No data available	No data available	No data available	No data available
Sodium silicofluoride - (16893-85-9)	125.00, Rabbit - Category: 3	70.00, Rat - Category: 2	No data available	No data available	No data available
Potassium ferricyanide - (13746-66-2)	No data available	No data available	No data available	No data available	No data available

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Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

Classification	Category	Hazard Description
Acute toxicity (oral)	3	Toxic if swallowed.
Acute toxicity (dermal)	2	Fatal in contact with skin.
Acute toxicity (inhalation)	2	Fatal if inhaled.
Skin corrosion/irritation	1A	Causes severe skin burns and eye damage.
Serious eye damage/irritation	1	Causes serious eye damage.
Respiratory sensitization	1	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitization	1	May cause an allergic skin reaction.
Germ cell mutagenicity	1B	May cause genetic defects.
Carcinogenicity	1A	May cause cancer.
Reproductive toxicity	2	Suspected of damaging fertility.
STOT-single exposure	---	Not Applicable
STOT-repeated exposure	1	Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard	---	Not Applicable

12. Ecological information

12.1. Toxicity

Very toxic to aquatic life with long lasting effects.

No additional information provided for this product. See Section 3 for chemical specific data.

Aquatic Ecotoxicity

Ingredient	96 hr LC50 fish, mg/l	48 hr EC50 crustacea, mg/l	ErC50 algae, mg/l
Chromium trioxide - (1333-82-0)	21.05, Oreochromis mossambicus	0.162, Daphnia magna	1.54 (72 hr), Dictyosphaerium chlorelloides
Barium nitrate - (10022-31-8)	Not Available	Not Available	Not Available
Sodium silicofluoride - (16893-85-9)	Not Available	Not Available	Not Available
Potassium ferricyanide - (13746-66-2)	Not Available	Not Available	Not Available

12.2. Persistence and degradability

There is no data available on the preparation itself.

12.3. Bioaccumulative potential

No data available.

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12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

This product contains PBT/vPvB chemicals.

12.6. Other adverse effects

No data available.

13. Disposal considerations

13.1. Waste treatment methods

Observe all federal, state and local regulations when disposing of this substance.

14. Transport information

	DOT (Domestic Surface Transportation)	IMO / IMDG (Ocean Transportation)	ICAO/IATA
14.1. UN number	UN3087	UN3087	UN3087
14.2. UN proper shipping name	UN3087, Oxidizing solid, toxic, n.o.s., (Chromic Acid & Barium Nitrate), 5.1	Oxidizing solid, toxic, n.o.s., (Chromic Acid & Barium Nitrate)	Oxidizing solid, toxic, n.o.s., (Chromic Acid & Barium Nitrate)
14.3. Transport hazard class(es)	DOT Hazard Class: 5.1(6.1)	IMDG: 5.1 Sub Class: 6.1	Air Class: 5.1
14.4. Packing group	II	II	II
14.5. Environmental hazards			
IMDG	Marine Pollutant: Yes (Chromium trioxide)		
14.6. Special precautions for user	No further information		

15. Regulatory information

Regulatory Overview	The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.		
Toxic Substance Control Act (TSCA)	All components of this material are either listed or exempt from listing on the TSCA Inventory.		
WHMIS Classification	D1A E C		
US EPA Tier II Hazards	Fire: No	Sudden Release of Pressure: No	Reactive: Yes
			Immediate (Acute): Yes
			Delayed (Chronic): Yes

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SARA 313 Components:

The following component(s) are subject to reporting levels established by SASA Title III, Section 302:

Chemical Name: Chromium trioxide

CAS No: 1333-82-0

SARA 311/312 Hazards:

Reactivity hazard
Acute Health Hazard
Chronic Health Hazard

EPCRA 311/312 Chemicals and RQs:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

EPCRA 302 Extremely Hazardous:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

EPCRA 313 Toxic Chemicals:

Barium nitrate

California Proposition 65

WARNING! This product contains a chemical, which is known to the State of California to cause cancer and/or birth defects or other reproductive harm.

Chemical Name: Chromium trioxide

CAS No: 1333-82-0

New Jersey RTK Substances (>1%):

Barium nitrate
Chromium trioxide
Sodium silicofluoride

Pennsylvania RTK Substances (>1%):

Barium nitrate
Chromium trioxide

16. Other information

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is:

H271 May cause fire or explosion; strong oxidizer.

H272 May intensify fire; oxidizer.

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H301 Toxic if swallowed.
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H330 Fatal if inhaled.
H331 Toxic if inhaled.
H332 Harmful if inhaled.
H334 May cause allergic or asthmatic symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.
H340 May cause genetic defects.
H350 May cause cancer.
H361f Suspected of damaging fertility.
H372 Causes damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

Issue Date: 03/04/2015

Revision Date: 05/17/2021

Revision Note:

No information available.

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