Safety Data Sheet

According to Regulation (EC) No. 1907/2006 (REACH)

Uranine 2313

Version number: GHS 1.0 Date of compilation: 2022-01-10

SECTION 1: Identification

1.1 Product identifier

Identification of the substance	**C.I. Acid Yellow 73, disodium salt**
CAS number	518-47-8
Alternative name(s)	Fluorescein, disodium salt EC No. 208-253-0 Former Trade Names: Uranine 4313 Tracer Dye HI-pH Stable Uranine 6313
Item code(s)	D2313P

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

Relevant identified uses	dye Marker, Tracer Colorant industrial use professional use
Uses advised against	Do not use for products which come into contact with foodstuffs. Do not use for private purposes (household).

1.3 Details of the supplier of the safety data sheet

The Science Company
7625 W Hampden Ave #14
Lakewood CO 80227
United States

Normal Business Hours: Monday - Friday 0900-1750 MST/DST (UTC-7)
Telephone: 303-777-3777
Fax: 303-777-3331
e-mail: info@sciencecompany.com
website: www.sciencecompany.com
email (competent person) sgrebe@sciencecompany.com (Steven Grebe)

1.4 Emergency telephone number

Emergency information service	(800) 255-3924 (CHEM-TEL)

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture

Classification acc. to GHS

This substance does not meet the criteria for classification.

2.2 Label elements

Labeling

Not required.

2.3 Other hazards

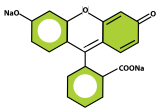
Dust explosion hazards.

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance	C.I. Acid Yellow 73, disodium salt
IUPAC name	disodium;2-(3-oxido-6-oxoxanthen-9-yl)benzoate
Identifiers	
CAS No	518-47-8
RTECS No	LM5425000
Molecular formula	C20H10Na2O5
Molar mass	376.3 $^{g}/_{mol}$
Structural formula	

SECTION 4: First-aid measures

4.1 Description of first-aid measures

General notes

If irritation or symptoms occur from any route of exposure, remove the affected individual from the area. Remove contaminated clothing and launder before reuse. In all cases of doubt, or when symptoms persist, seek medical advice.

Following inhalation

If inhalation causes irritation, move to fresh air. If symptoms develop or person does not feel well, get medical advice/attention.

Following skin contact

Wash with plenty of soap and water.

Following eye contact

Flush eyes with clean water for fifteen (15) minutes. Remove contact lenses if safe to do so. Flush longer if there is any indication of residual chemical in the eye. Ensure adequate flushing of the eyes by holding the eyelids open with fingers and rolling eyes in a circular motion. Get medical advice/attention if irritation continues.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting unless instructed to do so by medical personnel. Get medical advice/attention if symptoms occur or if the affected person does not feel well. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Dermal contact may temporarily discolor skin due to dye characteristics. May produce an allergic reaction.

4.3 Indication of any immediate medical attention and special treatment needed

None.

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SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

In case of fire use water fog, foam, carbon dioxide (CO2), dry chemical.

Unsuitable extinguishing media

Water jet

5.2 Special hazards arising from the substance or mixture

Danger of dust explosion. Deposited combustible dust has considerable explosion potential.

Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO2), Sulfur oxides (SOx)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Coordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

6.2 Environmental precautions

Prevent spilled material from entering public sewer systems, rivers, lakes, streams and other surface waters. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Take up mechanically, Cover floor drains. Prevent spilled material from leaving the area if safe to do so.

Advice on how to clean up a spill

Take up mechanically. Collect spillage using appropriate absorbent material(s):

Other information relating to spills and releases

Place in appropriate labeled containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Take precautionary measures against static discharge. Use only in well-ventilated areas. Only vacuum cleaners containing no ignition sources may be used for combustible dusts. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools.

- Specific notes/details

Layers, deposits and heaps of combustible dust must be considered, like any other source which can form a hazardous explosive atmosphere. Dust deposits may accumulate on all deposition surfaces in a technical room. The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion. Danger of dust explosion.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

- Explosive atmospheres

Removal of dust deposits. Only vacuum cleaners containing no ignition sources may be used for combustible dusts.

Control of the effects

Protect against external exposure, such as

Protect from freezing

- Ventilation requirements

Use local and general ventilation. Ground/bond container and receiving equipment.

7.3 Specific end use(s)

See section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Ceiling-C [ppm]	Ceiling-C [mg/m³]	Notation	Source
US	Particulates not otherwise classified (PNOC)		PEL	1,766	15					partml, i, dust	29 CFR 1910.1000
US	Particulates not otherwise classified (PNOC)		PEL	529.5	5					partml, r, dust	29 CFR 1910.1000

Notation

Ceiling-C	ceiling value is a limit value above which exposure should not occur
dust	as dust
i	inhalable fraction
partml	particles/ml
r	respirable fraction
STEL	short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

Notation	
TWA	time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

- Hand protection

Wear protective gloves.

- Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. Particulate filter device (EN 143). If exposure to mist or spray is likely, wear approved respiratory protection.

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Solid (powder)
Color	Light brown, slightly orange
Odor	Odorless
Melting point/freezing point	313 – 317 °C at 1,013 kPa
Boiling point or initial boiling point and boiling range	not determined
Flammability	This material is combustible, but will not ignite readily
Lower and upper explosion limit	60 g/m³
Flash point	217.6 °C at 967.3 hPa
Auto-ignition temperature	>300 °C
Decomposition temperature	Not relevant
pH (value)	not applicable
Kinematic viscosity	Not relevant
Solubility(ies)	
Water solubility	>100 g/l at 20 °C
Partition coefficient	
Partition coefficient n-octanol/water (log value)	-0.67

Soil organic carbon/water (log KOC)	1.948 (20 °C)
Vapor pressure	0 mmHg at 25 °C
Density and/or relative density	
Density	Not determined
Relative vapour density	information on this property is not available
Bulk density	0.55 – 0.78 $^{g}/_{cm^3}$
Particle characteristics	No data available

9.2 Other information

Information with regard to physical hazard classes	Hazard classes acc. to GHS (Physical hazards): Not relevant
Other safety characteristics	
Dust explosion class	ST 2 (strong explosive (rate of pressure; Kst > 200 - < 300 bar m/s))
Maximum explosion pressure	8.3 bar
Solid content	100 %

SECTION 10: Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

Hints to prevent fire or explosion

The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

10.5 Incompatible materials

Oxidizers

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

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SECTION 11: Toxicological information

11.1 Information on toxicological effects

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

This substance does not meet the criteria for classification.

Acute toxicity

Shall not be classified as acutely toxic.

Acute toxicity

Exposure route	Endpoint	Value	Species	Notes
oral	LD50	6,721 $^{mg}/_{kg}$	rat	
oral	LD50	4,738 $^{mg}/_{kg}$	mouse	
Intravenous LD50 1000 mg/kg Rat, Mouse; Source: Toxnet - Toxicology and Applied Pharmacology. Vol. 29, Pg. 97, 1974				
Intravenous TDLo 14 mg/kg/10ml Man; Source: Toxnet - Anesthesia and Analgesia Vol. 66, Pg. 283, 1987.				
Intravenous TDLo 7.142 mg/kg Man; Source: Toxnet - American Journal of Ophthalmology. Vol. 103, Pg. 111, 1987.				
Intraperitoneal LDLo 1000mg/kg Guinea Pig; Source: Toxnet - Chemical Warfare Laboratories Technical Memorandum. Vol. #47-6, Pg. 1959,				
Intraperitoneal LD50 Intravenous 1000mg/kg; Source: Toxnet - Toxicology and Applied Pharmacology. Vol. 29, Pg. 97, 1974.				

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitization

Shall not be classified as a respiratory or skin sensitizer.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

11.2 Information on other hazards

There is no additional information.

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SECTION 12: Ecological information

12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

Aquatic toxicity (acute)

Endpoint	Value	Species	Exposure time
LC50	1,372 $^{mg}/_{l}$	rainbow trout (Oncorhynchus mykiss)	96 h
LC50	337 $^{mg}/_{l}$	daphnia pulex	48 h
LC50	3,433 $^{mg}/_{l}$	bluegill (Lepomis macrochirus)	96 h
LC50	377 $^{mg}/_{l}$	aquatic invertebrates	48 h
LC50	4,198 $^{mg}/_{l}$	fish	24 h
EC50	209.2 $^{mg}/_{l}$	algae	72 h
EC50	>100 $^{mg}/_{l}$	aquatic invertebrates	48 h
ErC50	209.2 $^{mg}/_{l}$	algae	72 h

12.2 Persistence and degradability

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

n-octanol/water (log KOW)	-0.67
BCF	≤0.27

12.4 Mobility in soil

The Organic Carbon normalised adsorption coefficient	1.948 (20 °C)

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Endocrine disrupting properties

Not listed.

12.7 Other adverse effects

Data are not available.

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SECTION 13: Disposal considerations

13.1 Waste treatment methods

Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with product or container. Dispose of contents/container according to applicable national, federal, state, and local regulations.

Waste treatment of containers/packages

Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1	**UN number or ID number**	Not subject to transport regulations
14.2	**UN proper shipping name**	Not assigned
14.3	**Transport hazard class(es)**	Not assigned
14.4	**Packing group**	Not assigned
14.5	**Environmental hazards**	Non-environmentally hazardous acc. to the dangerous goods regulations

14.8 Information for each of the UN Model Regulations

Transport hazard class(es):
U.S. DOT hazard class: N/A
Canada TDG hazard class: N/A
Europe ADR/RID hazard class: N/A
IMDG Code (ocean) hazard class: N/A
ICAO/IATA (air) hazard class: N/A
A "N/A" listing for the hazard class indicates the product is not regulated for transport by that regulation.
Packing group: N/A
Environmental hazards:
Marine pollutant: Not Applicable
Hazardous substance (USA): Not Applicable
Special precautions for user: Not Applicable
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:
Not Applicable

Transport of dangerous goods by road or rail (49 CFR US DOT) - Additional information

Not subject to transport regulations.

14.8.6

Not subject to IMDG.

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SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

National regulations (United States)

Toxic Substance Control Act (TSCA) substance is listed

Superfund Amendment and Reauthorization Act (SARA TITLE III)

- The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

not listed

- Specific Toxic Chemical Listings (EPCRA Section 313)

not listed

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

- List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

not listed

Clean Air Act

not listed

Right to Know Hazardous Substance List

- Cleaning Product Right to Know Act Substance List (CA-RTK)

not listed

- Toxic or Hazardous Substance List (MA-TURA)

not listed

- Hazardous Substances List (MN-ERTK)

Name of substance	CAS No	References	Remarks
C.I. Acid Yellow 73, disodium salt		A	dust

Legend

A	American Conference of Governmental Industrial Hygienists (ACGIH), "Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices for 1992-93", available from ACGIH
dust	If the substance poses an airborne particulate exposure hazard, the substance is followed by the word "dust."

- Hazardous Substance List (NJ-RTK)

not listed

- Hazardous Substance List (Chapter 323) (PA-RTK)

not listed

- Hazardous Substance List (RI-RTK)

not listed

California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

not listed

Drug precursors, Chemicals designated within the Controlled Substances Act, 21 U.S.C. § 802, paragraphs 34 (list I) and 35 (list II)

not listed

VOC content

- Regulated Volatile Organic Compounds (VOC-EPA) 0 %
- Regulated Volatile Organic Compounds (VOC-Cal ARB) 0 %

Industry or sector specific available guidance(s)

NPCA-HMIS® III

Hazardous Materials Identification System. American Coatings Association.

Category	Rating	Description
Chronic	/	none
Health	0	no significant risk to health
Flammability	1	material that must be preheated before ignition can occur
Physical hazard	0	material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive
Personal protection	F	safety glasses, gloves, synthetic apron, anti-dust respirator

NFPA® 704

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).

Category	Degree of hazard	Description
Flammability	2	material that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur
Health	0	material that, under emergency conditions, would offer no hazard beyond that of ordinary combustible material
Instability	0	material that is normally stable, even under fire conditions
Special hazard		

National inventories

Country	Inventory	Status
AU	AICS	Substance is listed
CA	DSL	Substance is listed
CN	IECSC	Substance is listed
EU	ECSI	Substance is listed
EU	REACH Reg.	Substance is listed
JP	CSCL-ENCS	Substance is listed
KR	KECI	Substance is listed
MX	INSQ	Substance is listed
NZ	NZIoC	Substance is listed
PH	PICCS	Substance is listed
TW	TCSI	Substance is listed
US	TSCA	Substance is listed

Legend

AICS	Australian Inventory of Chemical Substances
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
KECI	Korea Existing Chemicals Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information, including date of preparation or last revision

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
29 CFR 1910.1000	29 CFR 1910.1000, Tables Z-1, Z-2, Z-3 - Occupational Safety and Health Standards: Toxic and Hazardous Substances (permissible exposure limits)
49 CFR US DOT	49 CFR U.S. Department of Transportation
BCF	Bioconcentration factor
Cal ARB	California Air Resources Board
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
DGR	Dangerous Goods Regulations (see IATA/DGR)
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EPA	Environmental Protection Agency. An agency of the federal government of the United States charged with protecting human health and the environment
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
IMDG	International Maritime Dangerous Goods Code
IUPAC	International Union of Pure and Applied Chemistry
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
NLP	No-Longer Polymer

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Abbr.	Descriptions of used abbreviations
NPCA-HMIS® III	National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic
PEL	Permissible exposure limit
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RTECS	Registry of Toxic Effects of Chemical Substances (database of NIOSH with toxicological information)
STEL	Short-term exposure limit
TWA	Time-weighted average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

Transport of dangerous goods by road or rail (49 CFR US DOT). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product. As the conditions or methods of use are beyond our control, The Science Company does not assume any responsibility and expressly disclaims any liability for any use of this product. Information contained herein is believed to be true and accur-ate and is made in good faith but all statements or suggestions are made without warranty, expressed or implied, regarding ac-curacy of the information, the hazards connected with the use of the material, or the results to be obtained from the use thereof. Compliance with all applicable federal, state, and local laws and local regulations remains the responsibility of the user.

This Safety Data Sheet (SDS) cannot cover all possible situations which the user may experience during use of this product. Each aspect of your operation should be examined to determine if, or where, additional precautions may be necessary. All health and safety information contained in this bulletin should be provided to your employees or customers. It is your responsibility to develop appropriate work practice guidelines and employee instructional programs for your operation.

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