



SAFETY DATA SHEET

THE DOW CHEMICAL COMPANY*

Product name: AUTOMATE™ YELLOW 8HF Liquid Dye

Issue Date: 03/04/2015

Print Date: 03/05/2015

THE DOW CHEMICAL COMPANY* encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. IDENTIFICATION

Product name: AUTOMATE™ YELLOW 8HF Liquid Dye

Recommended use of the chemical and restrictions on use

Identified uses: Colorant for petroleum products

COMPANY IDENTIFICATION

THE DOW CHEMICAL COMPANY*

Agent for Rohm and Haas Chemicals LLC

100 INDEPENDENCE MALL WEST

PHILADELPHIA PA 19106-2399

UNITED STATES

Customer Information Number:

215-592-3000

SDSQuestion@dow.com

EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: 1 800 424 9300

Local Emergency Contact: 989-636-4400

2. HAZARDS IDENTIFICATION

Hazard classification

This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

Eye irritation - Category 2A

Carcinogenicity - Category 2

Specific target organ toxicity - single exposure - Category 3

Aspiration hazard - Category 1

Label elements

Hazard pictograms



Signal word: **DANGER!**

Hazards

May be fatal if swallowed and enters airways.
Causes serious eye irritation.
May cause drowsiness or dizziness.
Suspected of causing cancer.

Precautionary statements

Prevention

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
Wash skin thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear eye protection/ face protection.
Use personal protective equipment as required.

Response

IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/ attention.
Do NOT induce vomiting.
If eye irritation persists: Get medical advice/ attention.

Storage

Store in a well-ventilated place. Keep container tightly closed.
Store locked up.

Disposal

Dispose of contents/ container to an approved waste disposal plant.

Other hazards

no data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Solution of organic compounds
This product is a mixture.

Component	CASRN	Concentration
-----------	-------	---------------

C.I. Solvent Yellow 175	See below*	42.0 - 48.0 %
Solvent naphtha, petroleum, heavy arom.	64742-94-5	49.0 - 57.0 %
Naphthalene	91-20-3	< 1.0 %

Note

C.I. Solvent Yellow CAS Numbers: 29190-28-1, 65087-00-5, 68310-04-3

4. FIRST AID MEASURES

Description of first aid measures

Inhalation: Move to fresh air.

Skin contact: Remove contaminated clothing. Wash affected skin areas thoroughly with soap and water. Consult a physician if irritation persists. Wash contaminated clothing before reuse. Do not take clothing home to be laundered.

Eye contact: Flush eyes with water as a precaution. If eye irritation persists, consult a specialist.

Ingestion: Drink 1 or 2 glasses of water. Never give anything by mouth to an unconscious person. IMMEDIATELY see a physician. If vomiting occurs spontaneously, keep airway clear. Do not induce vomiting: contains petroleum distillates and/or aromatic solvents. Careful gastric lavage may be indicated.

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed

Notes to physician: In acute cases of naphtha overexposure or ingestion, patients should be evaluated for signs of respiratory distress. Product contains a petroleum distillate that may cause CNS symptoms. If swallowed, DO NOT induce vomiting due to the risk of aspiration posed by petroleum distillates.

5. FIREFIGHTING MEASURES

Suitable extinguishing media: Use the following extinguishing media when fighting fires involving this material: Carbon dioxide (CO2) Dry chemical Water spray Foam

Unsuitable extinguishing media: no data available

Special hazards arising from the substance or mixture

Hazardous combustion products: no data available

Unusual Fire and Explosion Hazards: Closed containers may rupture via pressure build-up when exposed to fire or extreme heat. Combustion generates toxic fumes of the following: Carbon oxides Nitrogen oxides (NOx)

Advice for firefighters

Fire Fighting Procedures: Move containers promptly out of fire zone. If removal is impossible, cool containers with water spray. Remain upwind. Avoid breathing smoke. Contain run-off.

Special protective equipment for firefighters: Wear self-contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Appropriate protective equipment must be worn when handling a spill of this material. See SECTION 8, Exposure Controls/Personal Protection, for recommendations. If exposed to material during clean-up operations, see SECTION 4, First Aid Measures, for actions to follow.

Environmental precautions: CAUTION: Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

Methods and materials for containment and cleaning up: Keep spectators away. Eliminate all ignition sources. Ventilate the area. Avoid breathing vapor. Floor may be slippery; use care to avoid falling. Contain spills immediately with inert materials (e.g., sand, earth). Transfer liquids and solid diking material to separate suitable containers for recovery or disposal. CAUTION: Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

7. HANDLING AND STORAGE

Precautions for safe handling: Wash after handling and shower at end of work period.

Conditions for safe storage: Avoid temperature extremes during storage; ambient temperature preferred. Store away from excessive heat (e.g. steampipes, radiators), from sources of ignition and from reactive materials. Keep containers tightly closed in a dry, cool and well-ventilated place. Store out of direct sunlight in a cool place.

Other data: Vapors can be evolved when material is heated during processing operations. See SECTION 8, Exposure Controls/Personal Protection, for types of ventilation required. Improper disposal or re-use of this container may be dangerous and illegal. Refer to applicable local, state and federal regulations. Dispose empty container in a sanitary landfill or by incineration as allowed by state and local authorities.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
Solvent naphtha, petroleum, heavy arom.	Rohm and Haas	TWA	100 mg/m3
Naphthalene	Rohm and Haas	STEL	300 mg/m3
	Dow IHG	TWA	10 ppm
	Dow IHG	TWA	Absorbed via skin
	Dow IHG	STEL	15 ppm
	Dow IHG	STEL	Absorbed via skin
	ACGIH	TWA	10 ppm

ACGIH
OSHA Z-1TWA
TWAAbsorbed via skin
50 mg/m³ 10 ppm**Exposure controls**

Engineering controls: Use local exhaust ventilation with a minimum capture velocity of 100 ft/min. (0.5 m/sec.) at the point of vapor evolution. Refer to the current edition of Industrial Ventilation: A Manual of Recommended Practice published by the American Conference of Governmental Industrial Hygienists for information on the design, installation, use, and maintenance of exhaust systems.

Protective measures: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Individual protection measures

Eye/face protection: Use chemical splash goggles (ANSI Z87.1 or approved equivalent). Eye protection worn must be compatible with respiratory protection system employed.

Skin protection

Hand protection: Chemical-resistant gloves should be worn whenever this material is handled. The glove(s) listed below may provide protection against permeation.

(Gloves of other chemically resistant materials may not provide adequate protection): Neoprene gloves. Gloves should be removed and replaced immediately if there is any indication of degradation or chemical breakthrough. Rinse and remove gloves immediately after use. Wash hands with soap and water.

Other protection: Use chemically resistant apron or other impervious clothing to avoid prolonged or repeated skin contact.

Respiratory protection: A respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements or equivalent must be followed whenever workplace conditions warrant a respirator's use. None required if airborne concentrations are maintained below the exposure limit listed in Exposure Limit Information. Up to 10 times the exposure limit: Wear a properly fitted NIOSH approved (or equivalent) half-mask, air-purifying respirator. Up to 50 times the exposure limit: Wear a properly fitted NIOSH approved (or equivalent) full-facepiece, air-purifying respirator, OR full-facepiece, airline respirator in the pressure demand mode. Above 50 times the exposure limit or Unknown: Wear a properly fitted NIOSH approved (or equivalent) self-contained breathing apparatus in the pressure demand mode, OR full-facepiece, airline respirator in the pressure demand mode with emergency escape provision. Air-purifying respirators should be equipped with NIOSH approved (or equivalent) organic vapor cartridges and N95 filters. If oil mist is present, use R95 or P95 filters.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance**Physical state**

liquid

Color

dark red

Odor

Aromatic odor

Odor Threshold

no data available

pH

5 - 7 Water extract

Melting point/range

-13 °C (9 °F) Solvent, naphtha

Freezing point

no data available

Boiling point (760 mmHg)

220 - 290 °C (428 - 554 °F) Solvent, naphtha

Flash point

> 93 °C (> 199 °F) A.S.T.M. D-93

Evaporation Rate (Butyl Acetate = 1)	<0.1 Solvent, naphtha
Flammability (solid, gas)	Not Applicable
Lower explosion limit	0.7 % vol Solvent, naphtha
Upper explosion limit	5.3 % vol Solvent, naphtha
Vapor Pressure	<0.1 mmHg at 20 °C (68 °F) Solvent, naphtha
Relative Vapor Density (air = 1)	5.2 Solvent, naphtha
Relative Density (water = 1)	no data available
Water solubility	insoluble
Partition coefficient: n-octanol/water	no data available
Auto-ignition temperature	>450 °C (842 °F) Solvent, naphtha
Decomposition temperature	no data available
Dynamic Viscosity	no data available
Kinematic Viscosity	no data available
Explosive properties	no data available
Oxidizing properties	no data available
Molecular weight	no data available
Percent volatility	52 - 58 %

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: no data available

Chemical stability: no data available

Possibility of hazardous reactions: This material is considered stable. However, avoid contact with ignition sources (e.g. sparks, open flame, heated surfaces).
Product will not undergo polymerization.

Conditions to avoid: no data available

Incompatible materials: Avoid contact with acids, alkalies and strong oxidizing agents.

Hazardous decomposition products: There are no known hazardous decomposition products for this material.

11. TOXICOLOGICAL INFORMATION

Toxicological information on this product or its components appear in this section when such data is available.

Acute toxicity

Acute oral toxicity

LD50, Rat, > 5,000 mg/kg

Acute dermal toxicity

As product: The dermal LD50 has not been determined.

Acute inhalation toxicity

Product test data not available.

Skin corrosion/irritation

No skin irritation

Serious eye damage/eye irritation

Irritating to eyes.

Sensitization

Does not cause skin sensitisation.

Specific Target Organ Systemic Toxicity (Single Exposure)

Product test data not available.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Product test data not available.

Carcinogenicity

Product test data not available.

Teratogenicity

Product test data not available.

Reproductive toxicity

Product test data not available.

Mutagenicity

In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects.

Aspiration Hazard

Product test data not available.

Additional information

No toxicity data are available for this material.

The information shown in SECTION 3, Hazards Identification, is based on to present in this material.

COMPONENTS INFLUENCING TOXICOLOGY:

C.I. Solvent Yellow 175

Acute dermal toxicity

The dermal LD50 has not been determined.

Acute inhalation toxicity

The LC50 has not been determined.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

No relevant data found.

Carcinogenicity

No relevant data found.

Teratogenicity

No relevant data found.

Reproductive toxicity

No relevant data found.

Solvent naphtha, petroleum, heavy arom.

Acute dermal toxicity

LD50, Rabbit, > 2,000 mg/kg No deaths occurred at this concentration.

Acute inhalation toxicity

LC50, Rat, male and female, 4 Hour, vapour, > 5.68 mg/l

Specific Target Organ Systemic Toxicity (Single Exposure)

May cause drowsiness or dizziness.

Route of Exposure: Inhalation

Target Organs: Central nervous system

Specific Target Organ Systemic Toxicity (Repeated Exposure)

In animals, effects have been reported on the following organs:

Lung.

Gastrointestinal tract.

Thyroid.

Urinary tract.

Dose levels producing these effects were many times higher than any dose levels expected from exposure due to use.

Cataracts and other eye effects have been reported in humans repeatedly exposed to naphthalene vapor or dust.

Reproductive toxicity

In animal studies, did not interfere with reproduction.

Aspiration Hazard

May be fatal if swallowed and enters airways.

Naphthalene

Acute dermal toxicity

Human case reports suggest Naphthalene may be absorbed through the skin in toxic amounts, especially in children. LD50, Rat, > 2,500 mg/kg

Acute inhalation toxicity

Excessive exposure may cause irritation to upper respiratory tract (nose and throat).

Excessive exposure may cause lung injury. Signs and symptoms of excessive exposure may include: Headache. Confusion. Sweating. Nausea and/or vomiting.

LC50, Rat, 4 Hour, vapour, > 0.41 mg/l The LC50 value is greater than the Maximum Attainable Concentration.

Specific Target Organ Systemic Toxicity (Single Exposure)

Available data are inadequate to determine single exposure specific target organ toxicity.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Observations in animals include:

Respiratory effects.

Excessive exposure may cause hemolysis, thereby impairing the blood's ability to transport oxygen.

Cataracts and other eye effects have been reported in humans repeatedly exposed to naphthalene vapor or dust.

Ingestion of naphthalene by humans has caused hemolytic anemia.

Carcinogenicity

Has caused cancer in some laboratory animals. In humans, there is limited evidence of cancer in workers involved in naphthalene production. Limited oral studies in rats were negative.

Teratogenicity

Did not cause birth defects in laboratory animals.

Reproductive toxicity

Available data are inadequate to determine effects on reproduction.

Aspiration Hazard

Based on physical properties, not likely to be an aspiration hazard.

Carcinogenicity**Component****Naphthalene****List**

IARC

US NTP

Classification

Group 2B: Possibly carcinogenic to humans

Reasonably anticipated to be a human carcinogen

12. ECOLOGICAL INFORMATION

Ecotoxicological information on this product or its components appear in this section when such data is available.

Toxicity**C.I. Solvent Yellow 175****Acute toxicity to fish**

No relevant data found.

Solvent naphtha, petroleum, heavy arom.**Acute toxicity to fish**

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

LC50, Freshwater fish, 96 Hour, 10 mg/l

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), 48 Hour, 3 - 10 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants

ErC50, Marine algae (Skeletonema costatum), 72 Hour, Cell Density, 2.5 mg/l

Naphthalene

Acute toxicity to fish

Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).

LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, 0.11 mg/l

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna, static test, 48 Hour, 1.6 - 24.1 mg/l

Acute toxicity to algae/aquatic plants

ErC50, Skeletonema costatum, Growth rate inhibition, 72 Hour, 0.4 mg/l

Chronic toxicity to fish

NOEC, Other, flow-through, 40 d, mortality, 0.37 mg/l

Persistence and degradability

C.I. Solvent Yellow 175

Biodegradability: No relevant data found.

Solvent naphtha, petroleum, heavy arom.

Biodegradability: Biodegradation may occur under aerobic conditions (in the presence of oxygen). Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

10-day Window: Fail

Biodegradation: 30 - 41 %

Exposure time: 28 d

Method: OECD Test Guideline 301D or Equivalent

Naphthalene

Biodegradability: Biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD28/ThOD > 40%).

Theoretical Oxygen Demand: 3.00 mg/mg

Biological oxygen demand (BOD)

Incubation Time	BOD
5 d	57.000 %
10 d	71.000 %
20 d	71.000 %

Photodegradation**Test Type:** Half-life (indirect photolysis)**Sensitizer:** OH radicals**Atmospheric half-life:** 5.9 Hour**Method:** Estimated.**Bioaccumulative potential****C.I. Solvent Yellow 175****Bioaccumulation:** No relevant data found.**Solvent naphtha, petroleum, heavy arom.****Bioaccumulation:** Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).**Partition coefficient: n-octanol/water(log Pow):** 2.9 - 6.1 OECD Test Guideline 117 or Equivalent**Bioconcentration factor (BCF):** 61 - 115 Oncorhynchus mykiss (rainbow trout) Estimated.**Naphthalene****Bioaccumulation:** Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).**Partition coefficient: n-octanol/water(log Pow):** 3.3 Measured**Bioconcentration factor (BCF):** 40 - 300 Fish. 28 d Measured**Mobility in soil****C.I. Solvent Yellow 175**

No relevant data found.

Solvent naphtha, petroleum, heavy arom.

No relevant data found.

Naphthalene

Potential for mobility in soil is medium (Koc between 150 and 500).

Partition coefficient(Koc): 240 - 1300 Measured

13. DISPOSAL CONSIDERATIONS

Disposal methods: Incinerate liquid and contaminated solids in accordance with local, state, and federal regulations.

14. TRANSPORT INFORMATION

DOT

Proper shipping name	Environmentally hazardous substance, liquid, n.o.s.(Xylene, Naphthalene)
UN number	UN 3082
Class	9
Packing group	III
Reportable Quantity	Xylene, Naphthalene

Classification for SEA transport (IMO-IMDG):

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Naphtha)
UN number	UN 3082
Class	9
Packing group	III
Marine pollutant	Naphtha
Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Proper shipping name	Environmentally hazardous substance, liquid, n.o.s.(Naphtha)
UN number	UN 3082
Class	9
Packing group	III

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

OSHA Hazard Communication Standard

This product is considered hazardous under the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Chronic Health Hazard

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313

Components	CASRN
Naphthalene	91-20-3

California (Proposition 65)

This product contains a component or components known to the state of California to cause cancer:

Components	CASRN
Naphthalene	91-20-3

United States TSCA Inventory (TSCA)

All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

:

16. OTHER INFORMATION

Hazard Rating System**HMIS**

Health	Flammability	Physical Hazard
1*	1	0

* = Chronic Effects (See Hazards Identification)

Revision

Identification Number: 101141195 / 1001 / Issue Date: 03/04/2015 / Version: 5.0

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

Absorbed via skin	Absorbed via skin
ACGIH	USA. ACGIH Threshold Limit Values (TLV)
Dow IHG	Dow Industrial Hygiene Guideline
OSHA Z-1	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
Rohm and Haas	Rohm and Haas OEL's
STEL	Short term exposure limit
TWA	Time weighted average

Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

THE DOW CHEMICAL COMPANY* urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

