



SAFETY DATA SHEET UV DYE (R134a, R12 and HFC)
Code: 70373 – 70383 – 70384 – 70532R – 80532R

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Material safety data sheet according regulation (UE) 2015/830
Version 5 – Date: 9th October, 2019 (replaces 06/2018)

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Commercial name UV dye compatible with R134a, R12 and all HFC refrigerants
Our code 70373 – 70383 – 70384 – 70532R – 80532R

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

Industrial sector Automotive, Refrigeration and Air-Conditioning
Relevant identified uses UV dye for A/C systems
Application Industrial and professional

1.3 Details of the supplier of the safety data sheet



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1.4 Emergency telephone number

Mariel Srl +39 0322 838319 **Mon/Fri : 8.30-12.30 / 13.30-17.30**
CAV-CNIT Anti-Poison (toxicological) National Information Centre +39 0382 24444 **Hours: 24 h / 24 h**

2. Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) 1272/2008 (CLP) Not classified.
Adverse physicochemical, human health and environmental effects No other hazards.

2.2 Elements of the label

Hazard components for labelling None
Dangerous pictogram None
Hazard statements (H) H412 Harmful to aquatic life with long lasting effects.
Precautionary statements (P) None
Special provisions None
Special provisions according Annex XVII of REACH and subsequent amendments: Restricted for professional users.

2.3 Other hazards

No other hazards.

3. Composition/information on ingredients

3.2 Mixture

Substance name	%	CAS No.	EC No.r	REACH No.	Classification Reg. (EC) 1272/2008 (CLP)
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpene	> = 1% - < 0.25%	68411-46-1	270-128-1	01-2119491299-23	4.1/C3 Aquatic Chronic 3, H412

4. First aid measures

4.1 Description of first aid measures

Inhalation Remove patient from exposure to fresh air and keep warm and at rest. Administer oxygen if necessary.



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Skin contact	Wash immediately with plenty of water and soap. Remove contaminated clothing. If irritation or blistering occurs, call a physician.
Eye contact	Remove contact lenses, if present. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.
Ingestion	Unlikely route of exposure. Do not induce vomiting without medical advice. Obtain immediate medical attention.

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

None.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	Dry powder fire extinguisher, foam, CO ₂ .
No suitable extinguishing media	High volume water jet.

5.2 Special hazards arising from the substance or mixture

Do not inhale combustion fumes.
Burning produces heavy smoke.

5.3 Advice for firefighters

Use suitable breathing apparatus.
Collect contaminated fire extinguishing water separately. Do not discharge into drains.
Move undamaged containers from immediate hazard area if it can be done safely.

Other information

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
For more information, see section 10.

6. Accidental release measure

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	If necessary, wear personal protection equipment. Remove persons to safety area. See protective measures under section 7 and 8.
For emergency responders	Wear professional protection equipment.

6.2 Environmental precautions

Try to stop leak if safe to do so.
Do not allow to enter into soil/subsoil. Do not allow enter into surface water or drains.
Retain contaminated washing water and dispose it.
Prevent the product from entering drainage system, sewers, surface water or groundwater.
Inform the competent authorities in case of accidental infiltration into the sewage system.
Do not release the product in the environment.
Suitable absorbing material: inert absorbent, sand, diatomaceous earth.

6.3 Methods and material for containment and cleaning up

Wash with plenty of water.

6.4 Reference to other sections

For more information, see section 8 and 13.

7. Handling and storage

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7.1 Precautions for safe handling

Avoid contact with eyes or skin.
 Do not breathe vapours or mists.
 Contaminated clothing should be changed before entering eating areas.
 Do not eat or drink while working.
 See also section 8 for recommended protective equipment.

7.1.2 Notes on general hygiene measures at the workplace

General hygiene measures for the handling of chemicals are applicable.
 Do not smoke, drink or eat while handling the product.
 Wash hands before and after handling the product.
 Remove contaminated clothing and protective equipment before entering areas where food is consumed.

7.2 Conditions for safe storage, including any incompatibility

Store product closed and in original containers.
 Store in a cool, dry and well-ventilated place.
 Keep away from heat sources, open flames, sparks and other sources of ignition.
 Under all circumstances, prevent penetration into the soil.
 Incompatible materials: None in particular.

7.3 Specific end use(s)

None in particular.

8. Exposure controls/personal protection

8.1 Control parameters

OEL (Occupational Exposure Limit): None

DNEL			
Components	CAS No.	Exposure	Values
Benzenamine, N-phenyl-, Reaction products with 2,4,4-trimethylpentene	64811-46-1	Dermal	DNEL – Workers 0.62 mg/Kg (long term exposure – systemic effects)
			DNEL - Users 0.31 mg/Kg (long term exposure – systemic effects)
		Inhalation	DNEL – Workers 4.37 mg/m ³ (long term exposure – systemic effects)
DNEL - Users 1.09 mg/m ³ (long term exposure – systemic effects)			
Oral	DNEL - Users 0.17 mg/m ³ (long term exposure – systemic effects)		

PNEC			
Components	CAS No.	Values	
Benzenamine, N-phenyl-, Reaction products with 2,4,4-trimethylpentene	64811-46-1	0.0338 mg/l	Freshwater
		0.0038 mg/l	Marine water
		0.51 mg/l	Intermittent release
		0.446 mg/Kg	Freshwater sediments
		0.0446 mg/Kg	Marine water sediments
		2.59 mg/Kg	Soil (agricultural)
		10 mg/l	STP - Value

8.2 Exposure controls

General hygiene measures for the handling of chemicals are applicable.
 Wash hands before breaks and at end of work.
 Keep away from food, drink and animal feeding stuffs.
 Remove contaminated clothing and protective equipment before entering areas in which food is consumed.
 Ensure good ventilation and/or local suction or general air extraction. If this is insufficient, suitable breathing protection should be worn.

8.2.2 Individual protection measures, such as personal protective equipment

a) Eye/face protection No needed for normal use. Eye protection required when there is a risk of splash.

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b) Skin protection

- i) Hand protection No needed for normal use, If necessary, protective gloves resistant to chemical products (EN 374).
- ii) Other Wear long-sleeved clothes. Remove or clean contaminated clothing.
Apron or protective clothing are not necessary.

c) Respiratory protection

No needed for normal use. In case of insufficient ventilation, wear self-contained breathing apparatus (EN529).



8.2.3. Environmental exposure controls

Handling in accordance with good industrial hygiene and safety practice.
 Prevent spillage or leakage of the product in watercourse or sewers.
 For more information, see section 7 and 13.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance	Oily liquid
Colour	Yellow
b) Odour	Characteristic
d) pH	n.a.
e) Melting point/freezing point	n.a.
f) Initial boiling point	n.a.
g) Flash point	250 °C
h) Evaporation rate	n.a.
i) Flammability (solid, gas)	n.a.
j) Upper/lower flammability	n.a.
k) Vapour pressure	n.a.
l) Vapour density	n.a.
m) Relative density	n.a.
n) Solubility (in the water)	Insoluble
o) Partition coefficient: n-Octanol/water	Not determined
p) Auto-ignition temperature	Not determined
q) Decomposition temperature	Not determined
r) Viscosity	78.2 cSt @ 40 °C
s) Explosive properties	n.a.
t) Oxidising properties	n.a.

9.2 Other information

Miscibility	Not available
Fat solubility/ solvent	Not available
Conductivity	Not available
Surface tension	Not available
Solvents	Not available

10. Stability and reactivity

10.1 Reactivity

Stable under normal handling and storage conditions.

10.2 Chemical stability

Stable under normal handling and storage conditions.

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10.3 Possibility of hazardous reactions

No hazardous reactions in normal handling and storage conditions.

10.4 Conditions to avoid

Stable under normal conditions.

10.5 Incompatible materials

None in particular.

10.6 Hazardous decomposition products

No dangerous decomposition products known.

11. Toxicological information

11.1 Information on toxicological effects

a) Acute toxicity

Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene
LD50 > 5000 mg/kg
Route: Oral
Species: Rat
Source: OECD 401

Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene
LD50 > 2000 mg/kg
Route: Skin
Species: Rat
Source: OECD 402

b) Skin corrosion/irritation

Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene
Negative
Route: Skin
Species: Rabbit
Source: OECD 404

c) Serious eye damage/irritation

Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene
Negative
Route: Skin
Species: Rabbit
Source: OECD 405

d) Respiratory or skin sensitisation

Not classified.
Based on available data, the classification criteria are not met.

e) Germ cell mutagenicity

Not classified.
Based on available data, the classification criteria are not met.

f) Carcinogenicity

Not classified.
Based on available data, the classification criteria are not met.

g) Reproductive toxicity

Not classified.
Based on available data, the classification criteria are not met.

h) STOT-single exposure

Not classified.
Based on available data, the classification criteria are not met.

i) STOT-repeated exposure

Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene
> 500 mg/m³
Duration: 6h/perday for 10 days
Route: Inhalation
Species: Rat

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Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene

> 500 mg/m³

Duration: 28 days

Route: Inhalation

Species: Rat

j) Aspiration hazard

Not classified.

Based on available data, the classification criteria are not met.

For more information of the toxicological effects, see section 2 and 8.

12. Ecological information

12.1 Toxicity

Not classified for environmental hazards.

Based on the available data, the classification criteria are not met.

Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene

a) Aquatic acute toxicity LC₅₀ > 100 mg/l

Duration: 96 h

Species: Fish

EC₅₀ > 51 mg/l

Duration: 48 h

Species: Daphnia magna

EC₅₀ > 100 mg/l

Duration: 72 h

Species: Algae

b) Aquatic chronic toxicity EC₅₀ > 1.69 mg/l

Duration: 504 h

Species: Algae

c) Bacteria toxicity EC₅₀ > 100 mg/l

Duration: 3 h

Species: Activated sludge

d) Terrestrial toxicity EC₁₀ > 259 mg/Kg

Duration: 1.344 h

Species: Algae

12.2 Persistence and degradability

Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene

Non-readily biodegradable

Test: OECD 301B

Duration: 28 d - %: 6

12.3 Potential of bio-accumulation

n.a.

12.4 Mobility soil

Avoid infiltration into the soil.

12.5 Results of PBT and vPvB assessment

The product does not contain PBT and vPvB substances.

12.6 Other adverse effects

None.

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13. Disposal consideration

13.1 Waste treatment methods

General info Wastes, debris, empty containers, disused work clothes, contaminated cleaning materials such as cloths, paper or other organic material must be collected and properly disposed of.

Disposal methods Dispose the product in accordance with local and national regulations.
Container should be completely empty.
Uncontaminated packaging can be recycled.
Dispose of packaging that cannot be cleaned in the same way as the substance.
Do not pierce or incinerate the containers, even if they are empty.

The user is obliged to observe compliance with EC, state and/or local regulations regarding waste disposal.

14. Transport information

14.1 UN Number Not applicable.

Transport by road (ADR) / Transport by rail (RID)

14.2 UN proper shipping name Not applicable
14.3 Danger classes related to transport Not applicable
14.4 Packing group Not applicable
14.5 Environmental hazards Not applicable

Transport by air (IATA/ICAO)

14.2 UN proper shipping name Not applicable
14.3 Danger classes related to transport Not applicable
14.4 Packing group Not applicable
14.5 Environmental hazards Not applicable

Transport by sea (IMDG)

14.2 UN proper shipping name Not applicable
14.3 Danger classes related to transport Not applicable
14.4 Packing group Not applicable
14.5 Environmental hazards Not applicable

14.6 Special precautions for users

n.a.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code.

n.a.

15. Regulatory information

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

Dir. 98/24/EC (Risks related to chemical agents at work)
Dir. 2000/39/EC (Occupational exposure limit values)
Regulation (EC) n. 1907/2006 (REACH)
Regulation (EC) n. 1272/2008 (CLP)
Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013
Regulation (EU) n. 2015/830
Regulation (EU) n. 286/2011 (ATP 2 CLP)
Regulation (EU) n. 618/2012 (ATP 3 CLP)
Regulation (EU) n. 487/2013 (ATP 4 CLP)
Regulation (EU) n. 944/2013 (ATP 5 CLP)
Regulation (EU) n. 605/2014 (ATP 6 CLP)
Regulation (EU) n. 2015/1221 (ATP 7 CLP)
Regulation (EU) n. 2016/918 (ATP 8 CLP)

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Regulation (EU) n. 2016/1179 (ATP 9 CLP)

Regulation (EU) n. 2017/776 (ATP 10 CLP)

Annex VII Regulation (EC) 1907/2006 (REACH) and subsequent modifications: Restrictions related to the product: No restriction

Restrictions related to the substances contained: Restriction 28

Where applicable, refer to the following regulatory provisions: Directive 2012/18/EU (Seveso III)

Regulation (EC) n. 648/2004 (detergents)

Dir. 2004/42/EC (VOC directive)

Provisions related to Directive EU 2012/18 (Seveso III): Category according to Annex 1, part 1: None.

15.2 Chemical safety assessment

No Chemical Safety Assessment (CSA) has been carried out for the mixture.

16. Other information

This Safety Data Sheet has been prepared in accordance with the current European Directive in force.

Text of hazard statement (H) in the section 2 and 3

H412 Harmful to aquatic life with long lasting effects.

Text of “Hazard Class and Category Code” in section 2 and 3, according to Regulation (EC) n. 1272/2008 (CLP)

Aqu. Chron. 3 Aquatic chronic hazard (long term), category 3 (code 4.1/C3)

History	Version 5 by Mariel Srl Revision date: 10/2019	Version 4 Date: 06/2018	Version 3 Date: 06/2015	Version 2 Date: 05/2012	Version 1 Date: 03/2009
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b) Abbreviations and acronyms

ADR	Accord Dangerous Route
CAS	Chemical Abstracts Service number
CE / EC	European Community
CLP	Classification, Labelling, Packaging
CSA	Chemical Safety Assessment
DNEL	Derived No Effect Level
EC10 / EC50	Effective Concentration 10% / 50%
EU / UE	European Union
IATA	International Air Transport Association
IBC code	International Bulk Chemical code
ICAO	International Civil Aviation Organization
IMDG code	International Maritime Dangerous Goods code
LC50	Lethal Concentration 50%
LD50	Lethal Dose 50%
MARPOL	MARine POLLution
n.a.	not applicable
n.d.a.	no data available
NOEC	No Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent, Bio-accumulative, Toxic
PNEC	Predicted No Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Rail International Dangerous goods transport
STOT-RE	Specific Target Organ Toxicity – repeated exposure
STOT-SE	Specific Target Organ Toxicity – single exposure
VOC	Volatile Organic Compounds
vPvB	very Persistent very Bioaccumulative

General bibliography

1. Regulation (UE) 1907/2006 of the European Parliament (REACH)



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2. Regulation (UE) 1272/2008 of the European Parliament (CLP)
3. Regulation (UE) 790/2009 of the European Parliament (I Atp. CLP)
4. Regulation (UE) 2015/830 of the European Parliament
5. Regulation (UE) 286/2011 of the European Parliament (II Atp. CLP)
6. Regulation (UE) 618/2012 of the European Parliament (III Atp. CLP)
7. Regulation (UE) 487/2013 of the European Parliament (IV Atp. CLP)
8. Regulation (UE) 944/2013 of the European Parliament (V Atp. CLP)
9. Regulation (UE) 605/2014 of the European Parliament (VI Atp. CLP)

Notice of liability

This information should not constitute a guarantee for any specific product properties. This information are only a guidance for safe handling, use, processing, storage, transportation, disposal and release and are not to be considered a warranty or a quality specification.

The information contained in this safety data sheet are based on our current knowledge and EU and national laws; they describe the product only with regard to safety requirements. The conditions of the user are beyond our knowledge and control. The product should not be used for purpose other than those specified. It is always the responsibility of the user to take all the necessary measures to comply with the requirements of current legislation. The information contained in this form should not considered as a guarantee of its properties.
