# Safety Data Sheet

## Safety Data Sheet dated 20/8/2018, version 1

## 1. IDENTIFICATION

Product identifier

Mixture identification:

Trade name: J-ECO SUBLY NANO ABSOLUTE BLACK

Other means of identification:

Trade code: NS60405AK1.0LW

Recommended use of the chemical and restrictions on use

Recommended use:

Digital printing ink

Restrictions on use:

All those who are not listed in the recommended uses

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Company:

JK Group USA, Inc.

106 Industrial Park Dr.

Soddy-Daisy, TN 37379

Phone +1 (423) 486-9376

Fax +1 (423) 486-9387

Competent person responsible for the safety data sheet:

safety@j-k-group.com

Emergency phone number

CAV Pavia

Istituti Clinici Scientifici Maugeri Spa SB

Via Salvatore Maugeri 4 - 27100 PAVIA

Tel. +39 0382-24444 (24/24h)

## 2. HAZARD(S) IDENTIFICATION

Classification of the chemical

Warning, Skin Sens. 1A, May cause an allergic skin reaction.

Label elements

Hazard pictograms:

Warning

Hazard statements:

H317 May cause an allergic skin reaction.

Precautionary statements:

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

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

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P302+P352 IF ON SKIN: Wash with plenty of water and soap.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P363 Wash contaminated clothing before reuse.

P501 Dispose of contents/container in accordance with applicable regulations.

Special Provisions:

None

Hazards not otherwise classified identified during the classification process:

None

Ingredient(s) with unknown acute toxicity:
None.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances
N.A.
Mixtures
Hazardous components within the meaning of 29 CFR 1910.1200 and related classification:

5% <= x < 7% Lignosulfonic acid
CAS: 105859-97-0, EC: 600-691-4
A.3/2A Eye Irrit. 2A H319

1% <= x < 3% Disperse Brown 27,
N-(2-chloroethyl)-4-[(2,6-dichloro-4-nitrophenyl)azo]-N-ethyl-m-toluidine
REACH No.: 01-2120769356-43-0001, CAS: 63741-10-6, EC: 264-439-1
The product is not classified as dangerous according to OSHA Hazard Communication Standard (29 CFR 1910.1200).

1% <= x < 3% Disperse Blue 360:
N,N-diethyl-3-methyl-4-[2-(5-nitro-1,3-thiazole-2-yl)diazen-1-yl]aniline
REACH No.: 01-2119891303-38-0001, CAS: 70693-64-0, EC: 435-600-5
A.4.2/1A Skin Sens. 1A H317
B.7/1 Flam. Sol. 1 H228

0.5% <= x < 1% Disperse Yellow 54: 3-hydroxy-2-(3-hydroxy-2-quinolyl)-1H-inden-1-one
REACH No.: 01-2120086353-55-0006, CAS: 17772-51-9, EC: 241-753-7
A.4.2/1B Skin Sens. 1B H317

## 4. FIRST-AID MEASURES

Description of necessary measures
In case of skin contact:
Immediately take off all contaminated clothing.
Remove contaminated clothing immediatley and dispose off safely.
In case of eyes contact:
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
In case of Ingestion:
Do not under any circumstances induce vomiting. OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.
In case of Inhalation:
Remove casualty to fresh air and keep warm and at rest.
Most important symptoms/effects, acute and delayed
None
Indication of immediate medical attention and special treatment needed
In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).
Treatment:
None

## 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media:
Water.
Carbon dioxide (CO2).
Unsuitable extinguishing media:
None in particular.

Specific hazards arising from the chemical
Do not inhale explosion and combustion gases.
Burning produces heavy smoke.
Hazardous combustion products:
None
Explosive properties: not applicable
Oxidizing properties: not applicable
Special protective equipment and precautions for fire-fighters
Use suitable breathing apparatus .
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Move undamaged containers from immediate hazard area if it can be done safely.

## 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures
Wear personal protection equipment.
Remove all sources of ignition.
Wear breathing apparatus if exposed to vapours/dusts/aerosols.
Provide adequate ventilation.
Remove persons to safety.
Use appropriate respiratory protection.
See protective measures under point 7 and 8.
Methods and materials for containment and cleaning up
Wash with plenty of water.

## 7. HANDLING AND STORAGE

Precautions for safe handling
Avoid contact with skin and eyes, inhaltion of vapours and mists.
Do not use on extensive surface areas in premises where there are occupants.
Don't use empty container before they have been cleaned.
Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.
Contamined clothing should be changed before entering eating areas.
Do not eat or drink while working.
See also section 8 for recommended protective equipment.
Conditions for safe storage, including any incompatibilities
Keep away from food, drink and feed.
Incompatible materials:
None in particular.
Instructions as regards storage premises:
Adequately ventilated premises.
Storage temperature:
Store at ambient temperature.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters
No occupational exposure limit available
DNEL Exposure Limit Values
N.A.
PNEC Exposure Limit Values
Disperse Brown 27: N-(2-chloroethyl)-4-[(2,6-dichloro-4-nitrophenyl)azo]-N-ethyl-m-toluidine - CAS: 63741-10-6
Target: Fresh Water - Value: 0.000741 mg/l
Target: Microorganisms in sewage treatments - Value: 1 mg/l
Target: Marine water - Value: 0.000074 mg/l

Appropriate engineering controls:
None
Individual protection measures
Eye protection:
Use close fitting safety goggles, don't use eye lens.
Protection for skin:
Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.
Protection for hands:
Use protective gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.
Respiratory protection:
Not needed for normal use.
Thermal Hazards:
None

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| Properties | Value | Method: | Notes |
|---|---|---|---|
| Appearance: | liquid | -- | -- |
| Colour: | black | -- | -- |
| Odour threshold: | not available | -- | -- |
| pH: | 7 - 9 | -- | @ 25°C |
| Melting point / freezing point: | not available | -- | -- |
| Initial boiling point and boiling range: | > 100 °C / 212 °F | -- | -- |
| Flash point: | > 266 °F | -- | -- |
| Evaporation rate: | not available | -- | -- |
| Solid/gas flammability: | not applicable | -- | -- |
| Upper/lower flammability or explosive limits: | not available | -- | -- |
| Vapour pressure: | not available | -- | -- |
| Vapour density: | not available | -- | -- |
| Relative density: | 1.070 | -- | @ 25°C |
| Solubility in water: | soluble | -- | -- |
| Solubility in oil: | not available | -- | -- |
| Partition coefficient (n-octanol/water): | not available | -- | -- |
| Auto-ignition temperature: | not available | -- | -- |

| | | | |
|---|---|---|---|
| Decomposition temperature: | not available | -- | -- |
| Viscosity: | 2 - 7 cPs | -- | @ 25°C |
| Miscibility: | miscible | -- | -- |
| Fat Solubility: | not available | -- | -- |
| Conductivity: | not available | -- | -- |
| Substance Groups relevant properties | not available | -- | -- |

## 10. STABILITY AND REACTIVITY

Reactivity
Stable under normal conditions
Chemical stability
Stable under normal conditions
Possibility of hazardous reactions
None
Conditions to avoid
Stable under normal conditions.
Incompatible materials
None in particular.
Hazardous decomposition products
None.

## 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects
Toxicological information of the product:
J-ECO SUBLY NANO ABSOLUTE BLACK
a) acute toxicity
Not classified
Based on calculation method, the classification criteria are not met
b) skin corrosion/irritation
Not classified
Based on calculation method, the classification criteria are not met
c) serious eye damage/irritation
Not classified
Based on calculation method, the classification criteria are not met
d) respiratory or skin sensitisation
The product is classified: Skin Sens. 1A H317
e) germ cell mutagenicity
Not classified
Based on calculation method, the classification criteria are not met
f) carcinogenicity
Not classified
Based on calculation method, the classification criteria are not met
g) reproductive toxicity
Not classified
Based on calculation method, the classification criteria are not met
h) STOT-single exposure
Not classified
Based on calculation method, the classification criteria are not met

i) STOT-repeated exposure
Not classified
Based on calculation method, the classification criteria are not met
j) aspiration hazard
Not classified
Based on calculation method, the classification criteria are not met
Toxicological information of the main substances found in the product:
Lignosulfonic acid - CAS: 105859-97-0
a) acute toxicity:
Test: LD50 - Route: Oral - Species: Rat > 10000 mg/kg
Disperse Brown 27: N-(2-chloroethyl)-4-[(2,6-dichloro-4-nitrophenyl)azo]-N-ethyl-m-toluidine - CAS: 63741-10-6
a) acute toxicity:
Test: LD50 - Route: Oral - Species: Rat > 2000 mg/kg - Source: similar subsamce
Disperse Blue 360: N,N-diethyl-3-methyl-4-[2-(5-nitro-1,3-thiazole-2-yl)diazen-1-yl]aniline - CAS: 70693-64-0
a) acute toxicity:
Test: LD0 - Route: Oral - Species: Rat > 2000 mg/kg - Notes: OECD 403
Test: LD0 - Route: Skin - Species: Rat > 2000 mg/kg
Disperse Yellow 54: 3-hydroxy-2-(3-hydroxy-2-quinolyl)-1H-inden-1-one - CAS: 17772-51-9
a) acute toxicity:
Test: LD50 - Route: Oral - Species: Rat > 5000 mg/kg
Test: LD50 - Route: Skin - Species: Rat > 5000 mg/kg
b) skin corrosion/irritation:
Test: Skin Irritant - Route: Skin - Species: Rat > 5000 mg/kg - Notes: OECD 404
Test: Skin Irritant - Route: Skin - Species: Mouse Positive
c) serious eye damage/irritation:
Test: Eye Irritant - Route: OCULARE - Species: Rabbit Negative - Notes: OECD 405
e) germ cell mutagenicity:
Test: Mutagenesis Negative - Notes: Ames test
Test: Mutagenesis Negative - Notes: OECD 476 - In vitro
Test: Mutagenesis Negative - Notes: OECD 487 - In vitro
i) STOT-repeated exposure:
Test: NOAEL - Route: Oral - Species: Rat 1000 mg/kg bw/day

Substance(s) listed on the NTP report on Carcinogens:
None.
Substance(s) listed on the IARC Monographs:
None.
Substance(s) listed as OSHA Carcinogen(s):
None.
Substance(s) listed as NIOSH Carcinogen(s):
None.

## 12. ECOLOGICAL INFORMATION

Ecotoxicity
Adopt good working practices, so that the product is not released into the environment.
J-ECO SUBLY NANO ABSOLUTE BLACK
Not classified for environmental hazards
Based on calculation method, the classification criteria are not met
Lignosulfonic acid - CAS: 105859-97-0
a) Aquatic acute toxicity:
Endpoint: LC50 - Species: Fish 615 mg/l - Duration h: 96 - Notes: Pimephales promelas
Disperse Brown 27: N-(2-chloroethyl)-4-[(2,6-dichloro-4-nitrophenyl)azo]-N-ethyl-m-toluidine - CAS: 63741-10-6
a) Aquatic acute toxicity:

Endpoint: CE50 - Species: Daphnia > 0.00022 ml/l - Duration h: 48

Disperse Blue 360: N,N-diethyl-3-methyl-4-[2-(5-nitro-1,3-thiazole-2-yl)diazen-1-yl]aniline - CAS: 70693-64-0

a) Aquatic acute toxicity:

Endpoint: OECD 203 - Species: Algae > 2.9 - Notes: Desmodesmus subspicatus
Endpoint: NOAEL - Species: Algae > 0.1 mg/l
Endpoint: OECD 203 - Species: Daphnia > 8.6 - Duration h: 48 - Notes: OECD 202
Endpoint: NOAEL - Species: Daphnia > 0.1 mg/l - Duration h: 48
Endpoint: LC0 - Species: Fish > 17 - Duration h: 96 - Notes: OCSE 203
Endpoint: NOAEL - Species: Fish > 0.1 mg/l - Duration h: 96
Endpoint: LC50 - Species: Fish > 0.017 mg/l - Duration h: 96
Endpoint: NOEC - Species: Fish > 0.017 mg/l - Duration h: 96

c) Bacteria toxicity:

Endpoint: OECD 203 > 1000 mg/l - Duration h: 3 - Notes: OCSE 209

Disperse Yellow 54: 3-hydroxy-2-(3-hydroxy-2-quinolyl)-1H-inden-1-one - CAS: 17772-51-9

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish > 180 mg/l - Duration h: 96 - Notes: Pimephales promelas
Endpoint: NOEC - Species: Daphnia > 0.07 mg/l - Duration h: 504 - Notes: Daphnia Magna - OECD 211 (mortalità)
Endpoint: NOEC - Species: Daphnia > 0.07 mg/l - Duration h: 504 - Notes: Daphnia Magna - OECD 211 (mortalità)
Endpoint: EC50 - Species: Algae > 0.412 mg/l - Duration h: 72 - Notes: Desmodesmus subspicatus - OECD 201

b) Aquatic chronic toxicity:

Endpoint: NOEC - Species: Algae > 0.412 mg/kg - Duration h: 72 - Notes: Desmodesmus subspicatus - OECD 201

f) Effects in sewage plants:

Endpoint: EC50 - Species: Active sludges > 1000 mg/l - Duration h: 3

Persistence and degradability

Lignosulfonic acid - CAS: 105859-97-0

Biodegradability: Non-readily biodegradable - Test: N.A. - Duration h: N.A. - %: N.A. - Notes: N.A.

Disperse Brown 27: N-(2-chloroethyl)-4-[(2,6-dichloro-4-nitrophenyl)azo]-N-ethyl-m-toluidine - CAS: 63741-10-6

Biodegradability: Non-readily biodegradable - Test: N.A. - Duration h: N.A. - %: N.A. - Notes: N.A.

Disperse Yellow 54: 3-hydroxy-2-(3-hydroxy-2-quinolyl)-1H-inden-1-one - CAS: 17772-51-9

Biodegradability: Non-readily biodegradable - Test: OECD TG 301 B - Duration h: JK01 - %: 0 - Notes: N.A.

Bioaccumulative potential

Disperse Yellow 54: 3-hydroxy-2-(3-hydroxy-2-quinolyl)-1H-inden-1-one - CAS: 17772-51-9

Bioaccumulation: Bioaccumulative - Test: Kow - Partition coefficient 4.8 - Duration h: N.A. - Notes: N.A.

Mobility in soil

Disperse Brown 27: N-(2-chloroethyl)-4-[(2,6-dichloro-4-nitrophenyl)azo]-N-ethyl-m-toluidine - CAS: 63741-10-6

Mobility in soil: Not mobile - Test: N.A. N.A. - Duration h: N.A. - Notes: N.A.

Other adverse effects

None

## 13. DISPOSAL CONSIDERATIONS

Waste treatment and disposal methods

Recover if possible. In so doing, comply with the local and national regulations currently in force.

## 14. TRANSPORT INFORMATION

Not classified as dangerous in the meaning of transport regulations.

UN number

| | |
|---|---|
| ADR-UN number: | not applicable |
| IATA-Un number: | not applicable |
| IMDG-Un number: | not applicable |

UN proper shipping name

| | |
|---|---|
| ADR-Shipping Name: | not applicable |
| IATA-Shipping Name: | not applicable |
| IATA-Technical name: | not applicable |
| IMDG-Shipping Name: | not applicable |
| IMDG-Technical name: | not applicable |

Transport hazard class(es)

| | |
|---|---|
| ADR-Class: | not applicable |
| ADR-Label: | not applicable |
| IATA-Class: | not applicable |
| IATA-Label: | not applicable |
| IMDG-Class: | not applicable |
| IMDG-Label: | not applicable |

Packing group

| | |
|---|---|
| ADR-Packing Group: | not applicable |
| IMDG-Packing group: | not applicable |

Environmental hazards

| | |
|---|---|
| ADR-Enviromental Pollutant: | No |
| IMDG-Marine pollutant: | No |

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)

| | |
|---|---|
| ADR-Tunnel Restriction Code: | not applicable |
| Rail (RID): | not applicable |
| IATA-Cargo Aircraft: | not applicable |

Special precautions

N.A.

## 15. REGULATORY INFORMATION

USA - Federal regulations

TSCA - Toxic Substances Control Act

TSCA inventory: all the components are listed on the TSCA inventory

SARA - Superfund Amendments and Reauthorization Act

Section 302 - Extremely Hazardous Substances:

| Name | CAS |
|---|---|
| Formaldehyde | 50-00-0 |

Section 304 - Hazardous substances:

| Name | CAS |
|---|---|
| Formaldehyde | 50-00-0 |

Section 313 - Toxic chemical list:

| Name | CAS |
|---|---|
| Formaldehyde | 50-00-0 |

CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act

| Name | CAS |
|---|---|
| Formaldehyde | 50-00-0 |

CAA - Clean Air Act

CAA listed substances:

No substances listed

CWA - Clean Water Act

CWA listed substances:
No substances listed

USA - State specific regulations
California Proposition 65
Substance(s) listed under California Proposition 65:
- Listed as carcinogen

| Name | CAS |
|---|---|
| Formaldehyde | 50-00-0 |

- Listed as reproductive toxicant
No substances listed

Massachusetts Right to know
Substance(s) listed under Massachusetts Right to know:

| Name | CAS |
|---|---|
| Glycerol | 56-81-5 |
| Formaldehyde | 50-00-0 |

New Jersey Right to know
Substance(s) listed under New Jersey Right to know:

| Name | CAS |
|---|---|
| Glycerol | 56-81-5 |
| Formaldehyde | 50-00-0 |

Pennsylvania Right to know
Substance(s) listed under Pennsylvania Right to know:

| Name | CAS |
|---|---|
| Glycerol | 56-81-5 |
| 2,2' -oxybisethanol; diethylene glycol | 111-46-6 |
| Formaldehyde | 50-00-0 |

## 16. OTHER INFORMATION

Full text of phrases referred to in Section 3:
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H228 Flammable solid.
Safety Data Sheet dated 8/20/2018, version 1
Disclaimer:
The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality. The information relates only to the specific material and may not be valid for such material used in combination with any other material or in any process.
This Safety Data Sheet cancels and replaces any preceding release.

| | |
|---|---|
| ADR: | European Agreement concerning the International Carriage of Dangerous Goods by Road. |
| CAS: | Chemical Abstracts Service (division of the American Chemical Society). |
| CLP: | Classification, Labeling, Packaging. |
| DNEL: | Derived No Effect Level. |
| EINECS: | European Inventory of Existing Commercial Chemical Substances. |
| GHS: | Globally Harmonized System of Classification and Labeling of Chemicals. |
| HMIS: | Hazardous Materials Identification System |
| IARC: | International Agency for Research on Cancer |
| IATA: | International Air Transport Association. |
| IATA-DGR: | Dangerous Goods Regulation by the "International Air Transport |

| | |
|---|---|
| | Association" (IATA). |
| ICAO: | International Civil Aviation Organization. |
| ICAO-TI: | Technical Instructions by the "International Civil Aviation Organization" (ICAO). |
| IMDG: | International Maritime Code for Dangerous Goods. |
| INCI: | International Nomenclature of Cosmetic Ingredients. |
| KSt: | Explosion coefficient. |
| LC50: | Lethal concentration, for 50 percent of test population. |
| LD50: | Lethal dose, for 50 percent of test population. |
| NFPA: | National Fire Protection Association |
| NIOSH: | National Institute for Occupational Safety and Health |
| NTP: | National Toxicology Program |
| OSHA: | Occupational Safety and Health Administration. |
| PNEC: | Predicted No Effect Concentration. |
| RID: | Regulation Concerning the International Transport of Dangerous Goods by Rail. |
| STEL: | Short Term Exposure limit. |
| STOT: | Specific Target Organ Toxicity. |
| TLV: | Threshold Limiting Value. |
| TWA: | Time-weighted average |