1. **Identification of the Substance/Mixture and of the Company/Undertaking**

1.1. **Product Identifier**

*Product Name:* ORASOL® Brown 324 (old Brown 2 RL)

*Article No.:* 94410

1.2. **Relevant identified Uses of the Substance or Mixture and Uses advised against**

*Identified uses:* Coloring agent for dye and varnish industry. Coloring agent for industrial purposes.

*Uses advised against:* 

2. **Hazards Identification**

2.1. **Classification of the Substance or Mixture**

*Classification according to EC Regulation 1272/2008*

- Skin sensitization, hazard category 1
- Acute aquatic toxicity, category 1
- Chronic aquatic toxicity, category 1

<table>
<thead>
<tr>
<th>Label</th>
<th>Cat.</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>H317</td>
<td>1</td>
<td>May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>H400</td>
<td>1</td>
<td>Very toxic to aquatic life.</td>
</tr>
<tr>
<td>H410</td>
<td>1</td>
<td>Very toxic to aquatic life with long lasting effects.</td>
</tr>
</tbody>
</table>

*Classification according to EC Regulation No. 67/548 or No. 1999/45*

<table>
<thead>
<tr>
<th>Label</th>
<th>Cat.</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>R43</td>
<td></td>
<td>May cause sensitization by skin contact.</td>
</tr>
<tr>
<td>R50</td>
<td></td>
<td>Very toxic to aquatic organisms.</td>
</tr>
<tr>
<td>R53</td>
<td></td>
<td>May cause long-term adverse effects in the aquatic environment.</td>
</tr>
</tbody>
</table>

*Safety Phrases:*

**Possible Environmental Effects:**

2.2. **Label Elements**

*Classification according to EC*
Material Safety Data Sheet
According to regulation (EC) No. 1907/2006 (REACH)

94410  ORASOL® Brown 324 (old Brown 2 RL)

Revised edition: 01.03.2012  Version: 2.1
Printed: 20.03.2015

Regulation 1272/2008

Hazard designation:

GHS07-1

GHS09

Signal word:

Warning

Hazard designation:

H317  May cause an allergic skin reaction.
H400  Very toxic to aquatic life.
H410  Very toxic to aquatic life with long lasting effects.

Safety designation:

P260  Do not breathe dust/fume/gas/mist/vapours/spray.
P272  Contaminated work clothing should not be allowed out of the workplace.
P273  Avoid release to the environment.
P280  Wear protective gloves/ clothing/ eye/ face protection.
P302+P352  If on skin: Wash with soap and water.
P311  Call a poison center or physician.
P362  Take off contaminated clothing and wash before reuse.
P391  Collect spillage
P501  Dispose of contents/ container according to regional, national and international regulations.

Hazardous components for labelling:

Other Hazards  This product is capable of dust explosion under certain circumstances.

3.  Composition/Information on Ingredients

3.1.  Substance

3.2.  Mixture

Chemical Characterization:  Dye, woodstain. 1:2 Chromium complex, C.I. Solvent Brown 43

Hazardous Ingredients:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Content</th>
<th>CAS-Nr</th>
<th>EINECS-Nr</th>
<th>EC-Nr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium bis[2-(3-chlorophenyl)-2,4-dihydro-4-[[2-hydroxy-5-mesylyphenyl]azo]-5-methyl-3H-pyrazol-3-onato(2-)][chrome(1-)](Xi,N; 43-50/53; H317-400-410)</td>
<td>40-60 %</td>
<td>51147-75-2</td>
<td>257-014-7</td>
<td></td>
</tr>
<tr>
<td>Sodium bis[methyl-[7-hydroxy-8-[[2-hydroxy-5-mesylyphenyl]azo]-1-naphthyl]carbamato(2-)][chrome(1-)](Xi,N; R43-50/53; H317-400-410)</td>
<td>10-25 %</td>
<td>71839-85-5</td>
<td>276-070-3</td>
<td></td>
</tr>
<tr>
<td>Chromat(1-)</td>
<td>10-25 %</td>
<td>70236-40-7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

next page: 3
Material Safety Data Sheet
According to regulation (EC) No. 1907/2006 (REACH)

94410 ORASOL® Brown 324 (old Brown 2 RL)

Revised edition: 01.03.2012 Version: 2.1 Printed: 20.03.2015

EINECS-Nr: 274-473-9
EC-Nr:

Additional information:

4. First Aid Measures
4.1. Description of the First Aid Measures

General information:
Remove contaminated clothes.

After inhalation:
Supply fresh air.
In case of complaints consult a physician.

After skin contact:
Wash with soap and rinse with plenty of water.
Remove contaminated clothing.

After eye contact:
Rinse open eyes with plenty of water for at least 15 minutes.

After ingestion:
Rinse mouth with water and drink plenty of water.

4.2. Most important Symptoms and Effects, both Acute and Delayed

Symptoms:
No further information available.

Effects:
No further information available.

4.3. Indication of any Immediate Medical Attention and special Treatment needed

Treatment:
Treat symptomatically.

5. Fire-Fighting Measures
5.1. Extinguishing Media

Suitable extinguishing media:
Extinguishing powder, foam.

Unsuitable extinguishing media:
Carbon dioxide (CO2)

5.2. Special Hazards arising from the Substance or Mixture

Special hazards:
In case of fire: hazardous vapors may be released. Development of fumes/aerosol.

5.3. Advice for Firefighters

Protective equipment:
6. Accidental Release Measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

**Personal precautions:**

Avoid formation of dust, wear protective clothing.

6.2. Environmental Precautions

**Environmental precautions:**

Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

6.3. Methods and Material for Containment and Cleaning Up

**Methods and material:**

Small spills:
Clean up with suitable appliance and dispose adequately.

Large spills:
Clean up mechanically. Avoid dust formation.

6.4. Reference to other Sections

Protective clothing, see Section 8.
Dispose of contaminated material according to Section 13.

7. Handling and Storage

7.1. Precautions for Safe Handling

**Instructions on safe handling:**

Respiratory protection when handling without exhaust system.

Avoid contact with eyes, skin and clothing.

Avoid formation of dust. Do not inhale dust.

**Hygienic measures:**

Do not eat or drink during work. Do not smoke.

7.2. Conditions for Safe Storage, including any Incompatibilities

**Storage conditions:**

Store in tightly sealed containers in a dry and cool room.

**Requirements for storage areas and containers:**

No special measures necessary.

**Information on fire and explosion protection:**

Avoid dust formation. Protect against electrostatic charging.

Do not store together with ignitable sources, heat and fire.

**Storage class (VCI):**

11; Combustible solids

Further Information:
7.3. Specific End Use(s)

Further information: No information available.

8. Exposure Controls/Personal Protection

8.1. Parameters to be Controlled

Parameters to be controlled (DE):

Parameters to be controlled (EC):

Derived No-Effect Level (DNEL):

Predicted No-Effect Concentration (PNEC):

Additional Information:

8.2. Exposure Controls

Technical protective measures:

Provide adequate ventilation.

Personal Protection

General protective measures:

The usual precautionary measures are to be adhered to when handling chemicals.

Keep away from foodstuffs and drinks. Do not eat, drink or smoke during work. Wash hands before breaks and at the end of work.

Respiratory protection:

Suitable respiratory protection for lower concentration or short-term effect: particle filter with medium efficiency for solid and liquid particles (e.g. EN 143 or 149, type P2 or FFP2).

Hand protection:

Chemical protective gloves (EN 374 (Europe), F739 (US)).

The manufacturer’s directions for use should be observed because of the great diversity of types.

Protective glove material:

Recommended: Protective index 6, > 480 min. of permeation time accord. EN 374.

Nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), polyvinyl chloride (0.7 mm).

Eye protection:

Safety glasses with protective shields (EN 166).

Body protection:

Environmental precautions:

Avoid contamination of sewage system, open water ways and ground water.

9. Physical and Chemical Properties

9.1. Information on Basic Physical and Chemical Properties
94410 ORASOL® Brown 324 (old Brown 2 RL)

Form: powder
Color: brown
Odor: odorless
Odor threshold: No information available.

pH-Value: ca. 6 (Suspension)
Melting temperature: not available
Boiling temperature: not applicable
Flash point: not applicable
Evaporation rate: not applicable

Flammability (solid, gas): not easily flammable
Upper explosion limit: no information available
Lower explosion limit: no information available
Vapor pressure: not applicable
Vapor density:
Density: 1.53 g/cm³ (20°C)
Solubility in water: insoluble

Coefficient of variation (n-Octanol/Water): not applicable
Auto-ignition temperature: > 500°C
Decomposition temperature: 390°C
Viscosity, dynamic: not applicable

Explosive properties: Product is not explosive.
Oxidizing properties: no information available

Bulk density: ca. 510 kg/m³

9.2. Further Information
Solubility in solvents:
Viscosity, kinematic

Burning class:

Solvent content:

Solid content:

Particle size:

Other information: No further information.

10. Stability and Reactivity

10.1. Reactivity

No decomposition if used according to specifications.

10.2. Chemical Stability

Stable if used according to specifications.

10.3. Possibility of Hazardous Reactions

Risk of dust explosion.

10.4. Conditions to Avoid

Conditions to avoid:

Avoid formation of dust.
Avoid ignition sources.
Avoid humidity.

Thermal decomposition: see section 9

10.5. Incompatible Materials

Strong acids, strong bases and strong oxidizing agents.

10.6. Hazardous Decomposition Products

Carbon oxides, nitrogen oxides, chromoxides, toxic fumes/vapors.
Hydrogen chloride, chromium oxide.

10.7. Further Information

11. Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity

LD50, oral: 2000 - 5000 mg/kg

LD50, dermal: No information available.

LC50, inhalation: No information available.

Primary effects

Irritant effect on skin: Non irritating (rabbit)

Irritant effect on eyes: Non-irritating to eyes (rabbit)
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Inhalation: No information available.
Ingestion: No information available
Sensitization: No information available.
Mutagenicity: Tests with bacteria did not show any mutagenic effects.
Reproductive toxicity: No data available.
Cancerogenity: No data available.
Teratogenicity: No information available.
Specific target organ toxicity (STOT): Single exposure: no information available.
Repeated exposure: no information available.
Additional toxicological information: Aspiration hazard: not applicable

12. Ecological Information
12.1. Aquatic Toxicity
Fish toxicity:
LC50: 1.3 mg/l (96h, Brachydanio rerio; OECD 203)
Daphnia toxicity:
EL50: 0.1 - 1 mg/l (48h, Daphnia magna)
Bacteria toxicity:
EC50: > 100 mg/l (3h, active sludge; OECD 209)
Algae toxicity:
EC50: > 100 mg/l (72h, Scenedesmus subspicatus; OECD 201)

12.2. Persistency and Degradability
Very insoluble product and can thus be removed from water mechanically in suitable effluent treatment plants.

12.3. Bioaccumulation
No information available.

12.4. Mobility
No information available.

12.5. Results of PBT- und vPvP Assessment
According to Annex VIII to Regulation (EC) No. 1907/2006 (REACH): this product is neither a PBT (persistent/bioaccumulative/toxic) or vPvB (very persistent/very bioaccumulative/very toxic) substance nor does it contain a PBT or vPvB substance.
12.6. Other Adverse Effects

Water hazard class: 2 (German Regulation) (Assessment by list): hazardous.

Behaviour in sewage systems: Treatment and discharge of waste water into biological treatment plant should be carried out according to official national and local regulations.

Further ecological effects: The product contains 6 W/W% chromium. Result based on a product with similar composition.

AOX Value: The product contains about 5.5% organically bound halogen.

13. Disposal Considerations

13.1. Waste Treatment Methods

Product: In accordance with current regulations, product may be taken to a waste disposal site or incineration plant, after consultation with site operator and/or with the responsible authority.

European Waste Code (EWC):

Uncleaned packaging: Uncontaminated packaging may be recycled. Packaging may be disposed of in the same manner as the product.

Waste Code No.:

14. Transport Information

14.1. UN Number

ADR, IMDG, IATA 3077

14.2. UN Proper Shipping Name

ADR/RID: UMWELTGEFAHRDENDER STOFF, FEST, N.A.G. (enthält Chromkomplex-Farbstoff)

IMDG/IATA: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (contains a chromium complex dye)

14.3. Transport Hazard Classes

ADR Class: 9
Hazard no.: 9
Classification code: M1
Tunnel no.: E
IMDG Class (sea): 9
Hazard no.: 9
EmS No.: IATA Class: 9
14. 4. Packaging Group

ADR/RID: III
IMDG: III
IATA: III

14. 5. Environmental Hazards

Labelling according 5.2.1.8 ADR/RID: fish and tree
Labelling according 5.2.1.6.3 IMDG: fish and tree
Labelled with "P" according 2.10 IMDG: yes

14. 6. Special Precautions for User

none known

14. 7. Transportation in Bulk according to Annex II of MARPOL 73/78 and IBC-Code

not evaluated

14. 8. Further Information

15. Regulatory Information

15. 1. Safety, Health and Environmental Regulations/Legislation specific for the Substance or Mixture

Water hazard class: 2, hazardous for water

Local regulations on chemical accidents:
Employment restrictions:
Restriction and prohibition of application: Not applicable.

Technical instructions on air quality:

15. 2. Chemical Safety Assessment

A Chemical Safety Assessment has not yet been carried out for this product.

15. 3. Further Information

16. Other Information

This product should be stored, handled and used in accordance with good hygiene practices and in conformity with any legal regulations. This information contained herein is based on the present state of knowledge and is intended to describe our product from the point of view of safety requirements. It should be therefore not be construed as guaranteeing specific properties.