



SAFETY DATA SHEET

DUASOLID 50

Section 1. Identification

Product name : DUASOLID 50
Product description : A two-component oxirane ester paint.
Product type : Liquid.

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

Recommended use: Painting work

Manufacturer : Tikkurila Oyj
P.O. Box 53
FI-01301 VANTAA
FINLAND
Telephone +358 20 191 2000

Supplier's details : Advanced Polymerics Inc.
10-12 Delaware Drive, Unit 1
Salem NH 03079
Phone (603) 328-8177
www.api-smartcoat.com

Emergency telephone number

Telephone number : (800) 424-9300

Supplier/Manufacturer

Telephone number : Tikkurila Oyj
+358 20 191 2000 (GMT +2) Mon-Fri 8-16

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 3
SKIN IRRITATION - Category 2
EYE IRRITATION - Category 2A
TOXIC TO REPRODUCTION (Unborn child) - Category 2
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

GHS label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : H226 - Flammable liquid and vapor.
H319 - Causes serious eye irritation.
H315 - Causes skin irritation.
H361 - Suspected of damaging the unborn child.
H373 - May cause damage to organs through prolonged or repeated exposure.

Section 2. Hazards identification

Precautionary statements

- Prevention** : P210 - Keep away from sparks and open flames. - No smoking.
P261 - Avoid breathing mist/vapors/spray.
P280 - Wear protective gloves/clothing.
P284 - In case of inadequate ventilation wear respiratory protection.
- Response** : P305 + P351 - IF IN EYES: Rinse cautiously with water for several minutes.
- Storage** : Not applicable.
- Disposal** : Not applicable.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Reaction mass of m-xylene, o-xylene, p-xylene and ethylbenzene	≥10 - <20	1330-20-7
n-butyl acetate	≤3	123-86-4
toluene	<1	108-88-3

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- General** : In all cases of doubt, or when symptoms persist, seek medical attention. Show this safety data sheet or label to the doctor if possible.
- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of lukewarm water, keeping eyelids open. Continue to rinse for at least 15 minutes. Get medical attention if symptoms occur.
- Inhalation** : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention.
- Skin contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.
- Ingestion** : If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Remove to fresh air and keep at rest in a position comfortable for breathing. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

May cause damage to organs through prolonged or repeated exposure.
Causes skin irritation.
Causes serious eye irritation.
Inhalation of vapours may cause dizziness, headache and nausea.
See Section 11 for more detailed information on health effects and symptoms.

Indication of immediate medical attention and special treatment needed, if necessary

None.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire. Recommended: Alcohol resistant foam, CO₂, powders or water spray/mist.
- Unsuitable extinguishing media** : Do not use a direct water jet that could spread the fire.

Specific hazards arising from the chemical : Flammable liquid and vapor. Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : When exposed to high temperatures, hazardous decomposition products may be produced, such as carbon monoxide and dioxide, smoke, oxides of nitrogen etc.

Special protective actions for fire-fighters : Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. Do not release runoff from fire to drains or watercourses.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures : Provide adequate ventilation. Avoid breathing vapor or mist. Avoid direct skin contact with product. See Section 8 for information on appropriate personal protective equipment.

Environmental precautions : Do not allow to enter drains, water courses or soil.

Methods and materials for containment and cleaning up : Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Preferably clean with a detergent. Avoid using solvents.

Section 7. Handling and storage

Precautions for safe handling : Vapors are heavier than air and may spread along floors. Vapors may form explosive mixtures with air. Prevent the creation of flammable or explosive concentrations of vapors in air and avoid vapor concentrations higher than the occupational exposure limits. Isolate from sources of heat, sparks and open flame. In addition, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard. Mixture may charge electrostatically: always use earthing leads when transferring from one container to another. No sparking tools should be used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Skin contact with the product and exposure to spray mist and vapor should be avoided. Avoid inhalation of dust from sanding. Wear appropriate respirator when ventilation is inadequate. See Section 8 for information on appropriate personal protective equipment. Eating, drinking and smoking should be prohibited in areas where this material is handled and stored. Wash hands before breaks and immediately after handling the product.

Conditions for safe storage, including any incompatibilities : Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). No smoking. Store and use away from heat, sparks, open flame or any other ignition source. Keep container tightly closed. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Recommended storage temperature is +5°C ...+25°C. Store in accordance with local regulations.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Reaction mass of m-xylene, o-xylene, p-xylene and ethylbenzene	<p>ACGIH TLV (United States, 3/2016). TWA: 100 ppm 8 hours. TWA: 434 mg/m³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 651 mg/m³ 15 minutes.</p> <p>OSHA PEL 1989 (United States, 3/1989). TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 655 mg/m³ 15 minutes.</p> <p>OSHA PEL (United States, 2/2013). TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours.</p>
n-butyl acetate	<p>OSHA PEL 1989 (United States, 3/1989). TWA: 150 ppm 8 hours. TWA: 710 mg/m³ 8 hours. STEL: 200 ppm 15 minutes. STEL: 950 mg/m³ 15 minutes.</p> <p>NIOSH REL (United States, 10/2013). TWA: 150 ppm 10 hours. TWA: 710 mg/m³ 10 hours. STEL: 200 ppm 15 minutes. STEL: 950 mg/m³ 15 minutes.</p> <p>OSHA PEL (United States, 2/2013). TWA: 150 ppm 8 hours. TWA: 710 mg/m³ 8 hours.</p> <p>ACGIH TLV (United States, 3/2016). STEL: 150 ppm 15 minutes. TWA: 50 ppm 8 hours.</p>
toluene	<p>OSHA PEL 1989 (United States, 3/1989). TWA: 100 ppm 8 hours. TWA: 375 mg/m³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 560 mg/m³ 15 minutes.</p> <p>OSHA PEL Z2 (United States, 2/2013). TWA: 200 ppm 8 hours. CEIL: 300 ppm AMP: 500 ppm 10 minutes.</p> <p>NIOSH REL (United States, 10/2013). TWA: 100 ppm 10 hours. TWA: 375 mg/m³ 10 hours. STEL: 150 ppm 15 minutes. STEL: 560 mg/m³ 15 minutes.</p> <p>ACGIH TLV (United States, 3/2016). TWA: 20 ppm 8 hours.</p>

Appropriate engineering controls : Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. Use explosion-proof ventilation equipment. If these are not sufficient to maintain concentrations of particulates and solvent vapours below the OEL, suitable respiratory protection must be worn (see Personal protection for both components). Comply with the health and safety at work laws.

Section 8. Exposure controls/personal protection

Environmental exposure controls : There is no special danger.

Individual protection measures

- Eye/face protection** : Use safety eyewear designed to protect against splash of liquids (EN166).
- Hand protection** : Wear protective gloves. Gloves should be replaced regularly and if there is any sign of damage to the glove material. The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.
Recommended glove material (EN374):
< 1 hour (breakthrough time): nitrile rubber
> 8 hours (breakthrough time): fluor rubber, laminated foil
Not recommended: PVC or natural rubber (latex) gloves
- Skin protection** : Wear suitable protective clothing. This product is classified as flammable. If necessary, personnel should wear antistatic clothing made of natural fibers or of high-temperature-resistant synthetic fibers.
- Respiratory protection** : If ventilation is inadequate, use respirator that will protect against organic vapor and dust/mist. During spray-application use respirators with combination filter A/P3 (EN405:2001). Wear a half mask or full face respirator with gas and vapor filter A and dust filter P2 during sanding (EN140:1998, EN405:2001). During continuous and long-term work the use of motor-driven or air-fed respirators is recommended (EN12941:1998). Be sure to use an approved/certified respirator or equivalent. Check that mask fits tightly and change filter regularly.

Section 9. Physical and chemical properties

Appearance

- Physical state** : Liquid.
- Color** : Coloured
- Odor** : Strong.
- Odor threshold** : Not relevant for the hazard assessment of the product.
- pH** : Not relevant for the hazard assessment of the product.
- Melting point** : -94.96°C (-138.9°F) (xylene)
- Boiling point** : 136.16°C (277.1°F) (xylene)
- Flash point** : Closed cup: 25°C (77°F)
- Evaporation rate** : 0.77 (butyl acetate = 1) (xylene)
- Flammability (solid, gas)** : Not applicable. Product is a liquid.
- Lower and upper explosive (flammable) limits** : Lower: 0.8% (xylene)
Upper: 6.7% (xylene)
- Vapor pressure** : 0.89 kPa (6.7 mm Hg) [room temperature] (xylene)
- Vapor density** : 3.7 (xylene)
- Density** : 1.2 to 1.7 g/cm³
- Solubility** : insoluble in water.
- Solubility in water** : Not available.
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : 432°C (809.6°F) (xylene)
- Decomposition temperature** : Not relevant for the hazard assessment of the product.
- Viscosity** : Kinematic (40°C (104°F)): >20.5 mm²/s (>20.5 cSt)
- Flow time (ISO 2431)** : Not available.

Section 10. Stability and reactivity

- Reactivity** : See Section 10.5.
- Chemical stability** : Stable under recommended storage and handling conditions (see Section 7).
- Possibility of hazardous reactions** : May present an explosion hazard when material is suspended in air in confined areas or equipment and subjected to spark, heat or flame.
- Conditions to avoid** : Avoid extreme heat and freezing. Avoid all possible sources of ignition (spark or flame).
- Incompatible materials** : Keep away from the following materials to prevent strong exothermic reactions:
 oxidizing agents
 strong acids
 strong alkalis
- Hazardous decomposition products** : When exposed to high temperatures, hazardous decomposition products may be produced, such as carbon monoxide and dioxide, smoke, oxides of nitrogen etc.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
xylene	LC50 Inhalation Vapor	Rat	22 mg/l	4 hours
	LD50 Dermal	Rabbit	1700 mg/kg	-
	LD50 Dermal	Rat	1100 mg/kg	-
	LD50 Oral	Rat	4300 mg/kg	-

Not classified.

Irritation/Corrosion

Causes skin irritation. Causes serious eye irritation.

Sensitization

Not classified.

Mutagenicity

Not classified.

Carcinogenicity

Not classified.

Classification

Product/ingredient name	OSHA	IARC	NTP
Reaction mass of m-xylene, o-xylene, p-xylene and ethylbenzene	-	3	-
toluene	-	3	-

Reproductive toxicity

Not classified.

Teratogenicity

Not classified.

Specific target organ toxicity (single exposure)

Not classified.

Section 11. Toxicological information

Name	Category	Route of exposure	Target organs
xylene	Category 3	Not applicable.	Respiratory tract irritation
n-butyl acetate	Category 3	Not applicable.	Narcotic effects
toluene	Category 3	Not applicable.	Narcotic effects

Specific target organ toxicity (repeated exposure)

May cause damage to organs through prolonged or repeated exposure.

Name	Category	Route of exposure	Target organs
xylene	Category 2	Not determined	Not determined
toluene	Category 2	Not determined	Not determined

Aspiration hazard

Not classified.

Section 12. Ecological information

Ecological testing has not been conducted on this product. Do not allow to enter drains, water courses or soil.

Toxicity

Not available.

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
toluene	-	-	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Reaction mass of m-xylene, o-xylene, p-xylene and ethylbenzene	3.12	8.1 to 25.9	low
n-butyl acetate	2.3	-	low
toluene	2.73	90	low

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : Not available.

Section 13. Disposal considerations




Disposal methods : Gather residues into waste containers. Liquid residue must not be emptied into drains or sewage system, but handled in accordance with national regulations. Product residues should be left at special companies which have permission for gathering this kind of wastes. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues.

United States - RCRA Toxic hazardous waste "U" List

Section 13. Disposal considerations

Ingredient	CAS #	Status	Reference number
Xylene	1330-20-7	Listed	U239

Section 14. Transport information

	ADR/RID	IMDG	IATA
UN number	UN1263	UN1263	UN1263
UN proper shipping name	PAINT	PAINT	PAINT
Transport hazard class(es)	3 	3 	3 
Packing group	III	III	III
Environmental hazards	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.
Additional information	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg. Special provisions 640 (E) Tunnel code (D/E)	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. Emergency schedules (EmS) F-E,S-E	The environmentally hazardous substance mark may appear if required by other transportation regulations.

Special precautions for user : **Transport within user's premises**: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **United States inventory (TSCA 8b)** : All components are listed or exempted.

SARA 311/312

Classification : Fire hazard
Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Section 15. Regulatory information

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
xylene	≥10 - <20	Yes.	No.	No.	Yes.	Yes.
n-butyl acetate	≤3	Yes.	No.	No.	Yes.	No.
toluene	<1	Yes.	No.	No.	Yes.	Yes.

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	xylene trizinc bis(orthophosphate)	1330-20-7 7779-90-0	≥10 - <20 ≤10
Supplier notification	xylene trizinc bis(orthophosphate)	1330-20-7 7779-90-0	≥10 - <20 ≤10

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	0
Flammability	0
Physical hazards	0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)



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Procedure used to derive the classification

Classification	Justification
FLAMMABLE LIQUIDS - Category 3 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A TOXIC TO REPRODUCTION (Unborn child) - Category 2 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	On basis of test data Calculation method Calculation method Calculation method Calculation method

History

Date of issue/Date of revision	: 11/17/2017	Date of previous issue	No previous validation	DUASOLID 50
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Section 16. Other information

Date of issue/Date of revision : 11/17/2017

Date of previous issue : No previous validation

Version : 1

Key to abbreviations :

- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
- UN = United Nations

References : Not available.

▣ Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.