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Waterborne HALS

ADEKA NOL UC-606

ADEKA NOL UC-606 is an emulsion of Hindered Amine type Light Stabilizer (HALS) developed by our original emulsion technologies. It has a good dispersing ability in water borne coating systems such as acryl, acryl/styrene, urethane, epoxy etc and gives excellent weathering properties to various resins due to its under micron particle size. ADEKA NOL UC-606 is alkyl phenol ethoxylate free.

1. Typical Properties

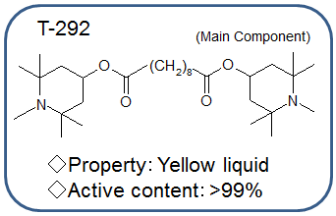
	ADEKA NOL UC-606
HALS Origin	Mixture of high MW HALS and low MW HALS
Type of HALS	N-CH_3
Content of amine	4.9%
Active content	47%
Appearance	White milky liquid
Viscosity (25°C)	1500 mPa·s
pH (2.5%aq)	9.5
Particle size (average)	300 nm

Typical properties; not to be construed as specifications.

2. Characteristics

- A good dispersing ability in water borne coating systems and less influence to transparency and initial gloss of the coating film.
- Fine particle and good stability of the dispersion
- It can be added by:
    1. Mixing it with a latex emulsion.
    2. Mixing it with a finished product (let down process).

Product Name : ADEKA NOL UC-606



3. Evaluation

Durability test 1 (Sunshine WOM)

Paint: Flat gloss paint

Sample: UC-606, Competior's HALS(T-292)

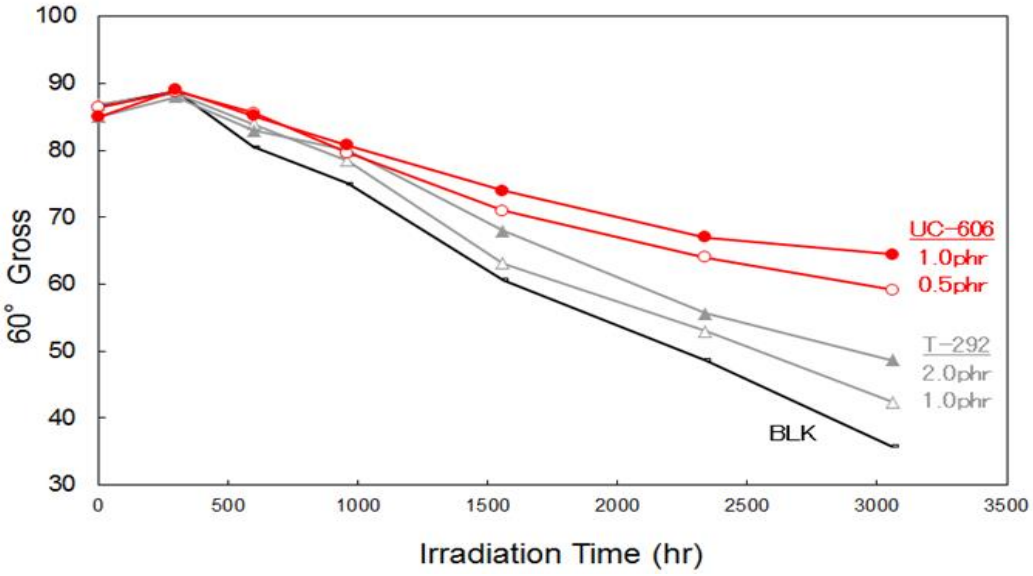
Method: Each light stabilizer is added to the paint and dispersed for 5 minutes by 2000 rpm. Then the paint was applied onto a glass plate by 254μm (10mil) thickness and dried for 7 days. Durability (60° gloss) was measured after weathering at Sunshine WOM.

Sunshine WOM condition: black panel temp = 63 °C, Sunshine/Rain=102min/18min cycle

Results:

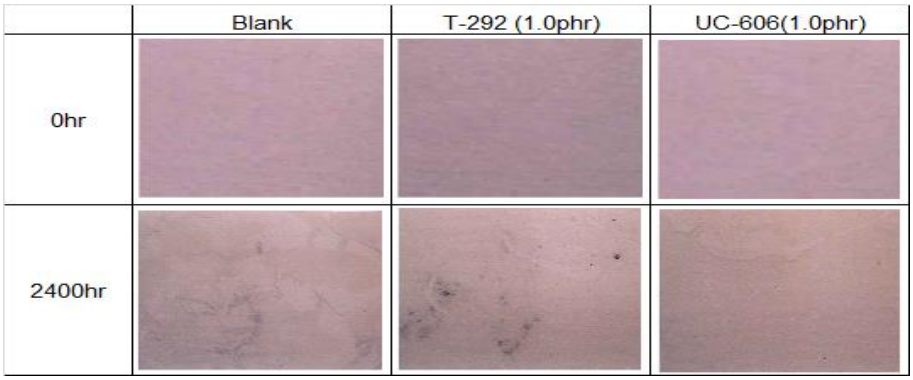
■ Gloss retention

* Dosage is active ingredient % on the solid of the paint.



■ Surface observation

Magnification: ×20



Conclusion

UC-606 shows higher durability in active ingredient amount of 1/4 compared with competitor's.

Durability test 2 (QUV)

Paint: Flat gloss paint

Sample: UC-606, Competitor's HALS (T-292, T-123)

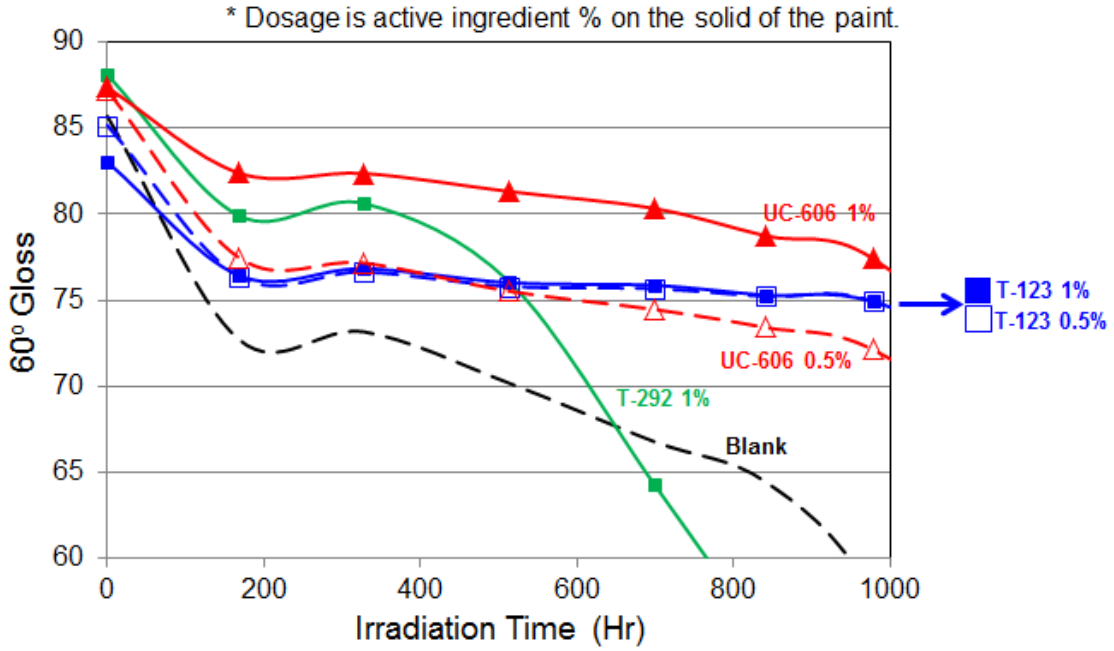
	Active content
UC-606	47%
T-292	100%
T-123	30%

Method: Each light stabilizer is added to the paint and dispersed for 5 minutes by 2000 rpm. Then the paint was applied onto a glass plate by 254μm (10mil) thickness and dried for 7 days. Durability (60° gloss) was measured after weathering at QUV.

QUV condition: ISO/FDIS 11507:1997

- 4hr UV irradiation at 60°C
- 4hr steam-exposure at 50°C without UV irradiation

Results:



Conclusion

UC-606 keeps gloss of coating high for a long period.

Our recommended dosage : 1% as active ingredient amount on the solid of the paint

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